DOCUMENT RESUME

ED 478 340 CE 085 130

AUTHOR	Still, Steven
TITLE	Herbaceous Ornamental Plants. Slide Script.
INSTITUTION	Ohio State Univ., Columbus. Agricultural Education Curriculum Materials Service.
PUB DATE	2002-00-00
NOTE	68p.; Materials printed from a CD-ROM that also includes color slides. CD-ROM not available from ERIC.
AVAILABLE FROM	Ohio Agricultural Education Curriculum Materials Service, 1114 Chambers Road, Columbus, Ohio 43212-1702 (catalog # 2046S, $75). Tel: 614-292-4848; Fax: 800-292-4919 (Toll Free); e-mail: cms@osu.edu; Web site: http://www.ohcms.org
PUB TYPE	Guides - Classroom - Teacher (052) -- Non-Print Media (100)
EDRS PRICE	EDRS Price MF01/PC03 Plus Postage.
DESCRIPTORS	*Agricultural Education; CD ROMs; Computer Uses in Education; Guidelines; Instructional Materials; Learning Activities; Multimedia Materials; *Ornamental Horticulture; Ornamental Horticulture Occupations; *Plant Growth; *Plant Identification; *Plants (Botany); Secondary Education; Vocational Education

ABSTRACT

This document, which is one in a series of curriculum materials that has been developed for use in Ohio agricultural education programs, contains 338 black-and-white photographs of a set of color slides and an accompanying script that, together, are intended as an aid in the study and identification of 150 different commercially important herbaceous ornamentals. Most of the plants presented are perennials. The photographs and accompanying script are intended to use with students who are preparing for jobs involving selling and/or growing and maintaining herbaceous ornamentals. The slides and script are intended to prepare students to identify the plants, help customers select plants for specific situations, and provide customers with cultural tips. In general, two slides are used to illustrate each plant. One slide shows the plant's habitat, and the other is a close-up of its flower or foliage. Plants are groups by start of the flowers' blooming season and treated alphabetically within each group by scientific name. The following information is included for each plant: scientific name (genus and species); family name; phonetic spelling of the scientific name; habitat; common name; and description. Also included are suggestions for using the slides with students and five additional activities related to identification of the ornamental plants presented. (MN)

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ED 478 340

Herbaceous Ornamental Plants

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SLIDE SCRIPT

by
Steven Still, Ph.D.

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and

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ACKNOWLEDGMENTS

Steven Still is both author and photographer of this slide series. He is a professor of landscape horticulture at The Ohio State University. Dr. Still is also author of the book *Herbaceous Ornamental Plants* and numerous horticultural articles. He serves as executive secretary for the Perennial Plant Association. Dr. Still has led a number of tours to the formal gardens of Great Britain and western Europe.

Project director for this slide series was A.W. Welch. Word processing, editing and layout were done by Muriel King. Originally, phototypesetting was done by Jacqueline A. Stuts.

James E. Cummins, Director
Agricultural Education Service
State Department of Education

Roger D. Roediger, Director
Ohio Agricultural Education
Curriculum Materials Service

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Ohio Agricultural Education Curriculum Materials Service
The Ohio State University
Room 254, 2120 Fyffe Road
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FOREWORD

A major objective of *Herbaceous Ornamental Plants*, slide set and script, is to aid in the study and identification of commercially important herbaceous ornamentals. For the most part, the herbaceous plants covered in this slide set are perennials.

Those involved in selling herbaceous ornamentals should be able to identify the plants, help customers select plants for specific situations, and provide cultural tips as well. Those who grow or maintain herbaceous plants must also be able to identify each plant and give its cultural requirements.

Herbaceous Ornamental Plants contains slides of 150 different plants. Generally, two slides are used to illustrate each perennial. One slide shows the habit of the plant; the other is a close-up of the flower, or the foliage. The plants are grouped by flowering period and treated alphabetically, in each group, by scientific name.

Narration for the first slide of each plant is as follows:

000. ***Scientific name (genus and species)*** **Family name**
(Phonetic spelling of scientific name) Habitat
COMMON NAME
Description

At the end of the script are two indexes: one for scientific names, the other for common names.

SUGGESTIONS FOR USE

1. Review the slide series and script prior to presenting it. For additional information, consult sources such as the book *Herbaceous Ornamental Plants* by Steven Still.

2. Determine which plants are in common usage in your area, then adapt the series to reflect your local situation.

3. Before presenting this series, make sure viewers have some knowledge of the culture and uses of herbaceous ornamentals and of terminology related to plant growth. Then decide how much and what type of additional information your viewers need to know.

4. This series has been divided into sections based on season of bloom. It is suggested that no more than one section be presented during any one session.

5. Add your own information and comments of those of your viewers to make the series relevant to your local situation. For example, viewers may be called upon to describe how each plant might be used in the outdoor environment.

SUGGESTIONS FOR ADDITIONAL ACTIVITIES

1. Visit a local producer to observe how herbaceous ornamentals are grown and used. Have the grower or manager explain the practices employed.

2. Do a survey of the types of plants available locally.

3. Devise experiments comparing the adaptability of certain plants to various landscape conditions.

4. Integrate several herbaceous plant species into the cropping schedule of your greenhouse.

5. Plant herbaceous ornamentals in the school landscape or the landscapes of local businesses. Have students care for these plants on a regular basis.

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- April 6-11
- May 11-24
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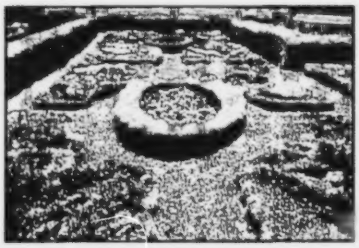
Common Name Index 62-63

HERBACEOUS ORNAMENTAL PLANTS

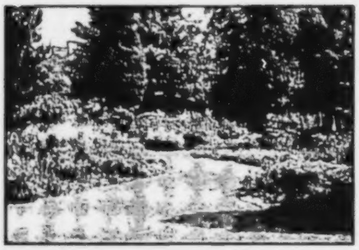
HERBACEOUS
ORNAMENTAL PLANTS

Steven Still

1. By horticultural definition, a perennial plant is one that normally lives at least three years under local conditions. A herbaceous perennial is one with stems that die to the ground each winter. Plants that arise from bulbs, such as tulip and crocus, are technically herbaceous perennials, but, because of the differing pattern of growth, are not included in this slide set.

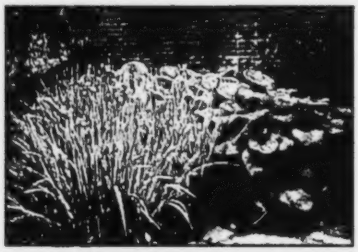


2. Perennials have always been grown, ever since gardens began. In Elizabethan gardens, they assumed a formal attire …
   (Hampton Court Palace – London, England)

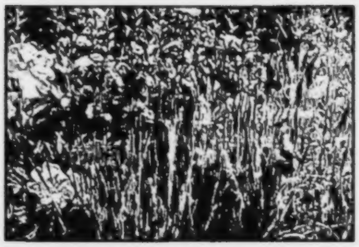


3. … which changed to the informal look in later years.
   (Kew Gardens – London, England)

4. There is a perennial to fit every landscape niche in the garden. This is due to the boundless variety of characteristics that perennials possess. (Wakehurst Place – England)



5. Leaf variation alone is limitless in texture and hue as well as in shape.
   (Sissinghurst Gardens – England)



6. Individual flower forms and types of inflorescence provide an array of differences. . .
   (A private garden – Manhattan, Kansas)

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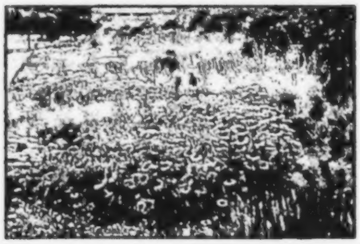
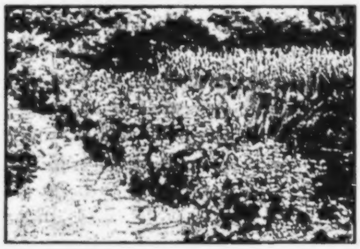
7. ... which allow the gardener to use perennials for complement or contrast. (Leeds Castle – England)

8. Colors of various perennials can outdo the rainbow. (Royal Botanic Garden - Edinburgh, Scotland)



9. There are beautiful blends . . . (Nationwide Insurance - Columbus, Ohio)

10. . . . as well as relatively pure hues. (Wakehurst Place – England)



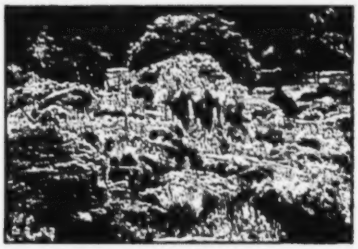
11. Even foliage color can add variety to the landscape. (Sissinghurst Gardens – England)

12. Heights and habits of perennials range widely—from plants a scant few inches in size to those reaching 6 feet or more.

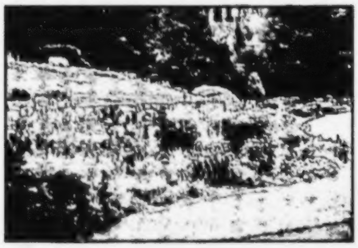
13. Differences among perennials in adaptability to exposures and soils allow the gardener to have attractive perennials regardless of the site. Some perennials do well in shade.
(Munich Botanic Garden – Munich, Germany)

14. Others perform well in full sun.
(Kew Gardens – London, England)

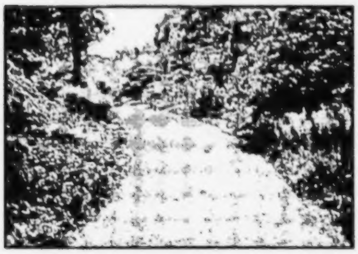
15. A wet area is adaptable to many perennial species.
(Longstalk Water Gardens – England)



16. Perennials can be used in a variety of ways.
(Royal Botanic Garden - Edinburgh, Scotland)

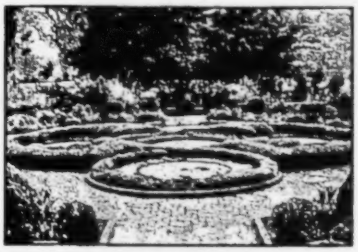


17. Many are arranged in borders which usually have a background.
(Longwood Gardens – Kennett Square, Pennsylvania)

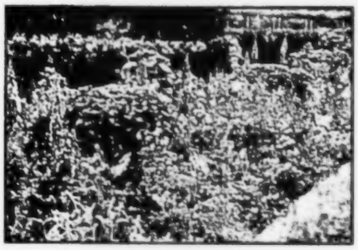


18. Other may be combined with trees and shrubs in a mixed border.
(Royal Botanic Garden - Edinburgh, Scotland)

19. A raised bed or rock garden is another popular use of this group of plants.
(Royal Botanic Garden - Edinburgh, Scotland)

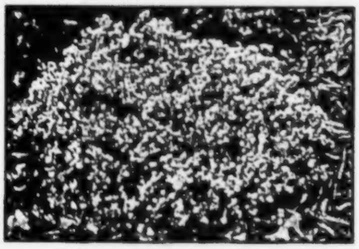


20. Some gardeners find joy with grasses or herbs which are also perennial subjects of note.
(Garden Center of Greater Cleveland – Cleveland, Ohio)



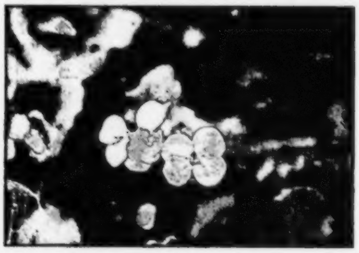
21. All in all, a perennial, in any form or in any situation, is an amply rewarding garden addition.
(Dumbarton Oaks)

—— March ——

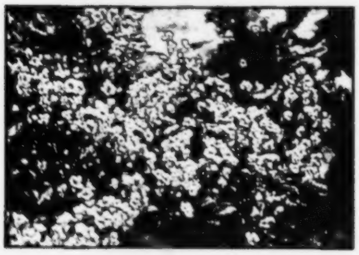


22. ***Arabis caucasica*** **Cruciferae**
(ar'a-bis kaw-kas'i-kuh) Habitat: Native to Mediterranean region
ROCK CRESS

This sun-loving plant is a natural for the rock garden or dry stone wall. With flowers it can reach 12 inches, but more often will be found as a 6-inch spreading plant.



23. The four-petaled flowers, a characteristic of the mustard family (Cruciferae), are white in the species, but can be pink in cultivars like 'Spring Charm.' Flowering is from late March to mid-May.

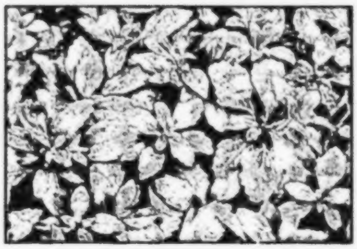


24. Rock cress can be propagated from seed, cuttings, or division. Cuttings should be made after flowering, and division is possible in both fall and spring. *Arabis* should be pruned back after flowering to retain a compact plant.

25. ***Helleborus orientalis*** **Ranunculaceae**
(hel-leb'or-us or-ee-en'tuh-lis) Habitat: Native to Europe
LENTEN ROSE

Lenten rose is one of the earliest perennials to flower. Normal flowering will occur in March and April. If the season is early, lenten rose may be found in flower earlier. The flowers vary in color from white through pink to purple.

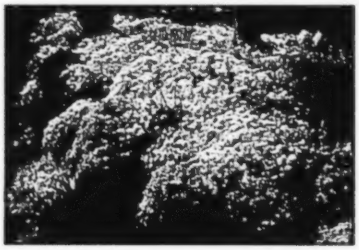
26. This species assumes a round habit that is 15 to 20 inches tall. *Helleborus* should be planted where it will receive partial shade in the summer and sun during the winter. Organic matter should be added to create a well-drained but not dry soil. This species is quite useful for that special place in the border or near a walk or beside the patio where the flowers can be displayed during the early flowering season.



27. ***Pachysandra terminalis*** **Buxaceae**
(pak-iss-an'druh ter-min-al'iss) Habitat: Native to Japan
JAPANESE PACHYSANDRA

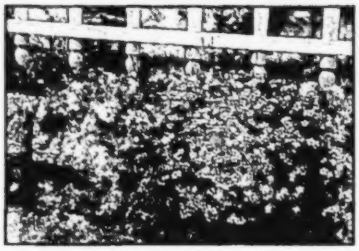
Japanese pachysandra has evergreen foliage and is used as a 6- to 8-inch-tall ground cover. The white flowers, arranged in terminal spikes 1 to 2 inches long, bloom in late March to early April. Pachysandra does best in moist, well-drained soils with a pH of 5.5 to 6.5 and good organic matter content.

28. Light to full shade is better than full sun locations. Plants will yellow or have necrotic spots in full sun, particularly during the winter. Leaf blight can become a problem in dense plantings. Pachysandra can be propagated by stem cuttings in spring or early summer.



29. ***Phlox subulata*** **Polemoniaceae**
(floks sub-you-lay'tuh) Habitat: Native to eastern United States
MOSS PINK, MOSS PHLOX, MOUNTAIN PHLOX,
GROUND PINK, FLOWERING MOSS

Phlox subulata has evergreen leaves which are linear, stiff, and crowded on the stem. This creates a prickly texture to the foliage. The branching habit develops a 3- to 6-inch, prostrate, dense mound up to 2 feet wide.



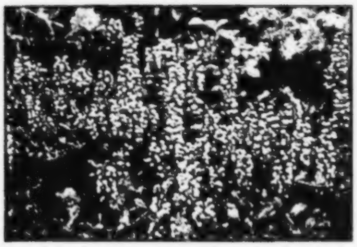
30. Moss pink can be identified by the individual flowers which are 1/2 inch across with corolla lobes shallowly notched. *Phlox subulata* is in flower from late March to May. Flower colors range from red-purple to violet-purple, pink or white. A very effective ground cover is created when this plant is grown in a sunny site in well-drained soil. The foliage should be cut back half-way following flowering to promote dense foliage.

31. ***Ajuga reptans*** **Labiatae**

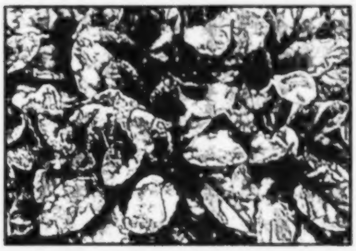
(uh-jew'guh rep'tanz) Habitat: Native to Europe

BUGLEWEED

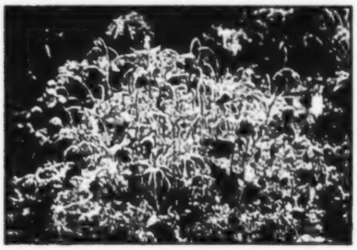
Bugleweed is a commonly-grown, evergreen ground cover which develops into a 6- to 9-inch-tall, dense cover. *Ajuga* mats so thickly that once it is established, weeds will not grow through the foliage.



32. *Ajuga* flowers in April and May with blue being the normal color; however, white and purple flowering selections are available. *Ajuga* can be grown from seed or division. Bugleweed needs to be divided frequently to prevent overgrowth, which may lead to crown rot—the most serious problem of this plant.



33. Cultivars of importance include 'Alba' – white flowers; 'Burgundy Glow' (shown here) – green, white, and pink variegated foliage; 'Silver Beauty' – white and green variegated leaves; and *A. genevensis* 'Bronze Beauty' – bronze leaves.



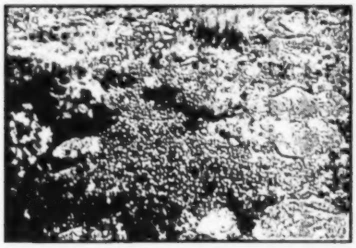
34. ***Anemone pulsatilla*** **Ranunculaceae**

(uh-nem'o-nee pul-seh-til'uh) Habitat: Native to Europe

PASQUE-FLOWER

This fine-textured plant with soft foliage is a real beauty in April and May.

35. The blue to reddish-purple flowers are 2 inches across and terminate the erect flower stems, which rise 8 inches above the basal foliage. Pasque-flower should be used in rock gardens or the front of borders where the unusual foliage and flowers can be seen in early spring. This plant requires well-drained soil in sun or partial shade. Wet soils in the winter are particularly detrimental. Pasque-flower can be propagated by seed or division during the spring.

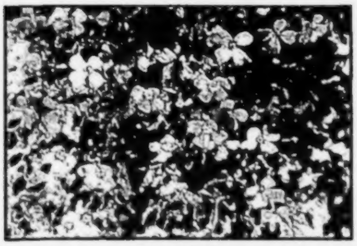


36. ***Aubrieta deltoidea*** **Cruciferae**

(aw-bree-eh'tuh del-toid'ee-uh) Habitat: Native to Greece and Turkey

FALSE ROCK-CRESS, PURPLE ROCK-CRESS

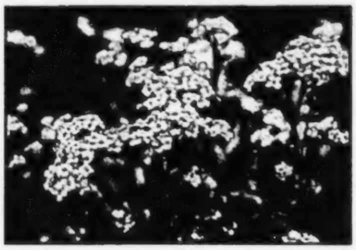
This 6-inch, mat-forming plant with gray-green foliage is a perfect choice for the rock garden, stone walls, or the edge of the perennial border. In April and May it is literally covered with rose-lilac to purple flowers each of which has four petals. Pink, blue, and red flower colors are available in cultivars.



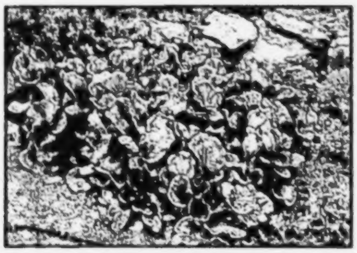
37. A full-sun exposure is best for false rock-cress, and the soil should be well-drained, particularly during the winter. *Aubrieta* can be propagated by seed, division, or cuttings. Cuttings should be taken immediately after flowering, while division is best done in early spring.

38. ***Aurinia saxatilis*** **Cruciferae**
(o-rin'ee-uh saks-at'il-is) Habitat: Native to central & southern Europe
BASKET-OF-GOLD, GOLDENTUFT MADWORT,
GOLDENTUFT ALYSSUM

Aurinia is another low-spreading, prostrate plant growing up to 12 inches tall. The gray foliage is strap-like, 2 to 5 inches long. The flowers appear in April and May and are bright yellow. Alyssum is a good choice for the rock garden or front of the border.

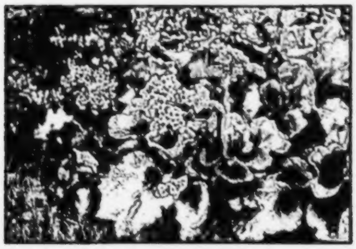


39. The best growth occurs in full sun and well-drained soil. An over-fertilized soil will produce a coarse, sprawling habit. Alyssum can be rejuvenated by cutting stems to half their length after flowering. Division can be done in the spring. *Aurinia* has had a name change. It was formerly called *Alyssum saxatile*.

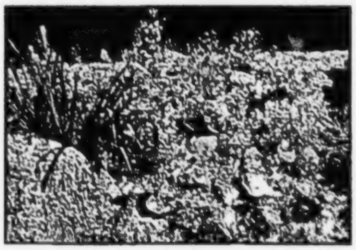


40. ***Bergenia cordifolia*** **Saxifragaceae**
(ber-gen'ee-uh kor-dif-fo'lee-uh) Habitat: Native to Siberia
HEARTLEAF BERGENIA, PIG SQUEAK

Bergenia is a clump-forming plant 12 inches tall. The evergreen leaves are fleshy to leathery in texture and have a dark, shiny appearance. This effect makes the species valuable for its foliage alone. The flowers, which are normally pink, are sometimes white; they bloom in April and May. However, the foliage often overshadows any flowering effect.



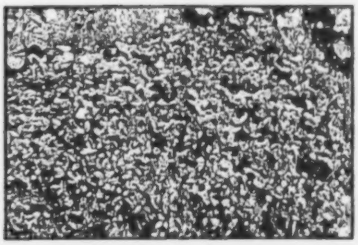
41. Plant Bergenia in full sun or partial shade near streams or pools or in the perennial border or rock garden. It is not invasive, so it can retain the desired landscape use for years. Spring division is best. This plant has no serious pest problems.



42. ***Brunnera macrophylla*** **Boraginaceae**
(brun-near'uh mak-roe-fill'uh) Habitat: Native to Siberia
SIBERIAN BUGLOSS

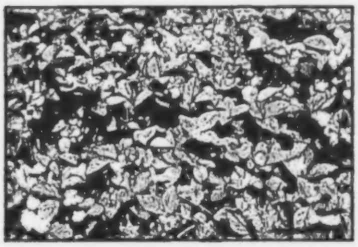
Siberian bugloss is another species valued for its foliage and flower features. The blue flowers are present from April to June. The cordate leaves increase in size during the season and by midsummer add considerably to the ornamental effect. *Brunnera* has a round habit and is 12 to18 inches tall.

43. *Brunnera* is fairly tolerant of most sites, but best performance occurs in partial shade in moist soil. It is an excellent plant for spring floral display and is often found in naturalized areas in semi-shade. Clump division is best in the spring. This species was formerly known as *Anchusa myosotidiflora*, a name still used in many catalogs.

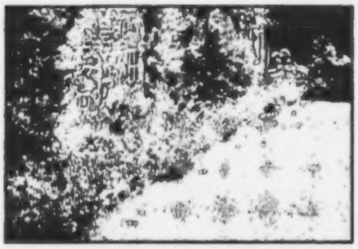


44. ***Duchesnea indica*** **Rosaceae**
(due-kes'nee-uh in'dic-uh) Habitat: Native to southern Asia; naturalized in eastern United States
MOCK STRAWBERRY

Mock strawberry is a semi-evergreen, trailing ground cover. This species spreads easily by seed (birds) and by plantlet-producing runners that root at the nodes. It is often confused with *Waldsteinia fragarioides* (barren strawberry - #135), also a desirable ground cover. The leaves of mock strawberry have a pointed apex, while those of barren strawberry are wedge-shaped and rounded. The bright yellow flowers, five-petaled, are present from April to midsummer.



45. The tasteless, red, strawberry-like fruit is present from June to September. Mock strawberry thrives in full sun to full shade, and in almost any acid to neutral, well-drained soil. This species should be used where its rapid growth can be restricted.



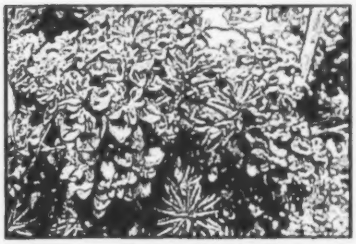
46. ***Erysimum asperum*** **Cruciferae**
(eh-ris'im-um as-pair'um) Habitat: Native to Rocky Mountains
SIBERIAN WALLFLOWER, ALPINE WALLFLOWER,
BLISTER CRESS

Siberian wallflower is a perennial that is often treated as a biennial. The early spring fragrance and bright flower color (yellow, orange, bronze, pink) make this a desired plant for the perennial border or rock garden.

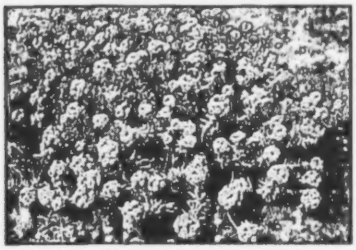
47. Wallflower plants are 12 to 24 inches across and are attractive when massed together. Established plants can be divided in the spring. For biennial use, seed can be sown in late summer. This species is also listed as *Cheiranthus* in many catalogs.

48. ***Euphorbia epithymoides*** **Euphorbiaceae**
(you-for'bee-uh ee-pith'im-moi'deez) Habitat: Native to eastern Europe
CUSHION EUPHORBIA, CUSHION SPURGE

Cushion spurge is an excellent plant for full-sun exposures with dry soil. It is long-lived and usually does not require frequent division.

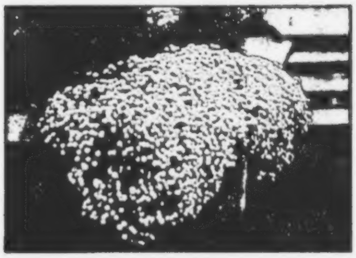


49. The leaves are oblong and approximately 2 inches long. The branching habit creates a symmetrical mound 12 to 18 inches tall. The 1-inch-wide flowers blooming in April and May are bright yellow. There are no serious pest problems.



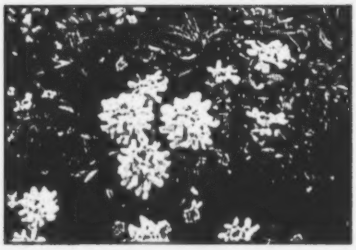
50. ***Euphorbia myrsinites*** **Euphorbiaceae**
(you-for'bee-uh mer-sin-eye'teez)
Habitat: Native to Mediterranean region
MYRTLE EUPHORBIA

Myrtle euphorbia has fleshy, glaucous, blue-green leaves which are borne in close spirals. This leaf arrangement appears whorled, although the leaves are really alternately arranged. The leaves are evergreen; during the winter they retain their blue-green attractiveness when protected from the sun and wind. The greenish-yellow flowers are apparent in April and May. The plant grows 12 to 18 inches wide with trailing stems 3 to 6 inches tall. Myrtle euphorbia should be planted in full sun and a well-drained soil. Plant hardiness is increased when the plant is grown in well-drained soils.



51. ***Iberis sempervirens*** **Cruciferae**
(i-be'ris sem-per-vie'renz) Habitat: Native to southern Europe
EVERGREEN CANDYTUFT, EDGING CANDYTUFT

The stems of *Iberis* are semi-woody and the leaves are evergreen and glabrous. This plant is 6 to 12 inches tall, spreads to 24 inches, and develops a mounded habit.



52. The white flowers of candytuft are four-petaled and cover the foliage with a white blanket in April and May. After flowering, the stems should be cut back at least one-half inch to promote vigorous growth and prevent the clumps from opening in the center. Full sun and well-drained soil are important growth requirements. In cold climates with little snow, the evergreen foliage benefits from a light covering of evergreen branches to reduce desiccation.

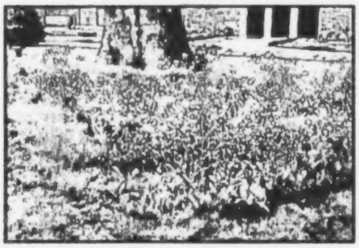
53. ***Iris cristata*** **Iridaceae**
(i'ris kris-tay'tuh) Habitat: Native to eastern United States
CRESTED IRIS, DWARF CRESTED IRIS

This native North American perennial is considered one of the best of the dwarf irises. The erect leaves are sword-shaped and grow 4 to 8 inches long. The small lilac flowers with yellow and white falls are borne in April and May.

54. The crest of this dwarf iris is composed of petal-like tissue instead of the beard that is found on many *Iris* species. Crested iris spreads by rhizomes. It is an ideal plant for the rock garden. It will tolerate sun but grows best in partial shade. The foliage dies back in midsummer and reappears in the spring.

55. ***Mertensia virginica*** **Boraginaceae**
(mer-ten'see-uh ver-jin'ic-uh) Habitat: Native to North America
VIRIGINIA BLUEBELLS, COWSLIP, ROANOKE BELLS, BLUEBELLS

Virginia bluebells is characterized by long, stalked, basal leaves that have entire margins. Its trumpet-shaped, purplish-blue flowers are borne in nodding clusters. Blooming in April and May, this species is a symbol of spring and adds quality to any perennial planting.

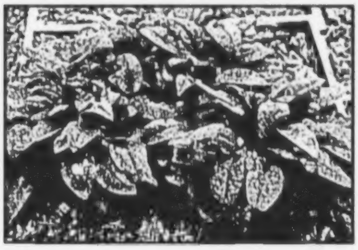


56. *Mertensia* is an 18-inch, erect plant which usually grows in clumps. It grows best in shaded areas in which the soil is cool and amply supplied with organic matter. The foliage of bluebells dies down by July. Consequently, it should be planted among perennials with spreading summer foliage, so the voids will not be obvious.

57. ***Primula* x *polyantha*** **Primulaceae**
(prim'u-luh pol-ee-an'thuh) Habitat: Hybrid origin
POLYANTHUS PRIMROSE

This primrose is one of the most showy of the early spring perennials. The flowers are available in a wide range of colors and are at their best in April and May. The name *Primula* is derived from the Latin *primus* meaning "first," and is apparently so named because of the early flowering.

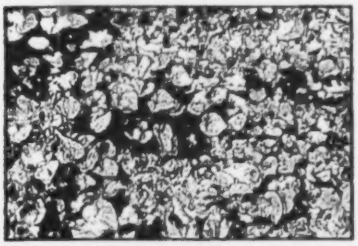
58. Primrose has basal leaves with erect flower stems 6 to 12 inches tall. Best growth occurs in partial shade in cool, moist soil containing abundant organic matter. A summer mulch and deep watering during dry periods are essential. Cold winters and dry summers are not desirable for *Primula*.



59. ***Pulmonaria saccharata*** **Boraginaceae**
(pul-mo-nare'ee-uh sak-uh-ray'tuh) Habitat: Native to Europe and Asia
BETHLEHEM SAGE

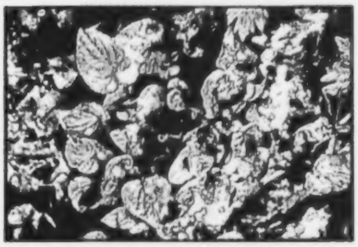
Bethlehem sage has dark green basal leaves covered with bristly pubescence and conspicuously flecked with white spots. The leaves develop a compact clump 8 to 12 inches tall. The flowers have a reddish-violet color and are borne in terminal, branched cymes during April and May.

60. *Pulmonaria* should be planted in full to partial shade in moist and cool soil. Bethlehem sage may be grown in full sun, but the foliage may suffer in midsummer. Use this species as a single specimen or massed to create a ground cover effect. The spotted leaves are an asset after flowering.



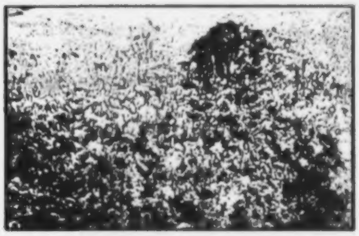
61. ***Viola odorata*** **Violaceae**
(vi-o'luh o-dor-ay'tuh) Habitat: Native to Europe, Asia and Africa
SWEET VIOLET, GARDEN VIOLET, FLORIST'S VIOLET, ENGLISH VIOLET

Sweet violet is an old-fashioned perennial that is easily recognized as the flower of spring. The fragrant flowers appear in April and May and are deep violet, or sometimes rose or white.



62. The flowers are borne on peduncles that arise directly from the basal leaves. Overall, the plant is 6 to 18 inches tall and develops into a broad, tufted clump. Sweet violet performs best in a cool, partially shaded site with well-drained soil high in organic matter. In moist, fertile sites, these stoloniferous plants will spread quickly and may become weedy.

May

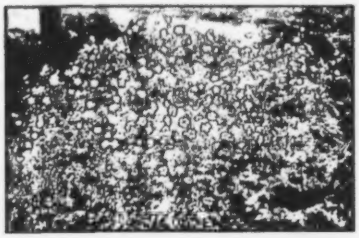


63. ***Aquilegia hybrida*** **Ranunculaceae**
(ak-wil-lee'gee-uh hi'brid-uh) Habitat: Hybrid origin
COLUMBINE

This colorful plant is probably one of the best known of the buttercup family.

64. The unique flowers, which terminate the branch, have five petals with back-projecting spurs. Peak flowering occurs in May to June; light shade and moist soil will prolong flowering.

65. This 2- to 3-foot-tall plant should be situated where its fading foliage can be camouflaged by the foliage of other plants. Leaf miner is a serious insect problem unless controlled by an effective spray program.

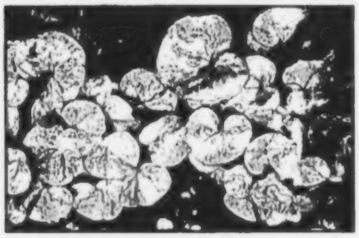


66. ‘McKana Giant,’ a 30-inch-tall cultivar with mixed colors, is a popular strain. Division can be carefully done in August or September.

67. ***Armeria maritima*** **Plumbaginaceae**
(ar-meer’ee-uh ma-rit’i-muh) Habitat: Native to Mediterranean region
SEA PINK, SEA THRIFT, COMMON THRIFT

Sea pink has evergreen foliage which resembles a dark green, fine-textured grass. It forms a dense rounded mat approximately 4 inches tall, with flower scapes up to 12 inches.

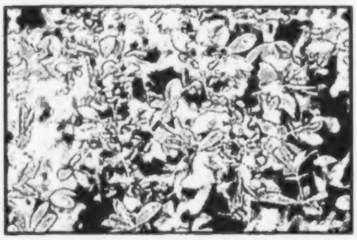
68. The pink or white flower heads are borne on leafless scapes in May and June. Sea pink should be located in full sun. It adapts well to dry, infertile sites. In fact, moist soils and high fertility cause the dense mats to rot in the center. Propagation is by seed or division.



69. ***Asarum europaeum*** **Aristolochiaceae**
(as’uh-rum you-ro-pee’um) Habitat: Native to Japan
EUROPEAN WILD GINGER, SHINY-LEAF GINGER

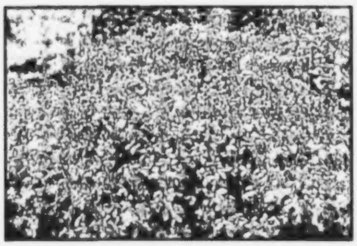
This evergreen ground cover has glossy leaves which are kidney-shaped and leathery. The bell-shaped flowers are greenish-purple or brown and are borne near the surface of the soil; consequently, they are not readily noticed. *Asarum* should be grown in a shaded area where the soil is moist and rich in organic matter. Plants can be increased by spring division. European wild ginger is relatively pest-free.

70. *Asarum canadense*, wild ginger, is a related species with dull, pubescent leaves which are deciduous. Wild ginger requires the same cultural conditions as European wild ginger.

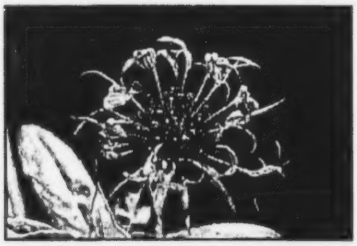


71. ***Baptisia australis*** **Leguminosae**
(bap-tiz'ee-uh aus-tray'lis) Habitat: Native to eastern
North America – Pennsylvania to Georgia
FALSE INDIGO, BLUE INDIGO

The flowers, foliage and fruit of this species are characteristic of the legume family. Consequently, the plant has pea-like characteristics. The indigo-blue flowers of May and June are arranged on terminal, erect racemes. The pod is 2 to 3 inches long and black when mature. False indigo has an erect habit and is 3 to 4 feet tall.

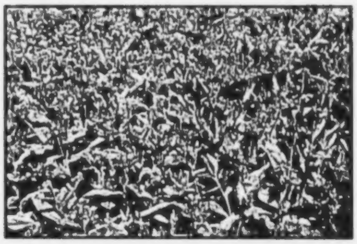


72. *Baptisia* is quite hardy but is slow-growing. It can serve as a specimen or as a background plant in a border. False indigo is not invasive; consequently, it can remain undisturbed for years. Seed is probably the best means of propagation since the plant has a long taproot which makes division difficult.

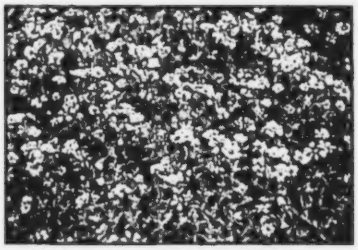


73. ***Centaurea montana*** **Compositae**
(sen-taw-ree'uh mon-tan'uh) Habitat: Native to Europe
MOUNTAIN BLUET, PERENNIAL BACHELOR'S BUTTON,
MOUNTAIN KNAPWEED

Mountain bluet is a vigorous perennial 12 to 24 inches tall. The 2-inch-in-diameter flowers are blue with black fringed bracts. Peak flowering is from May to July, but a rebloom occurs later if the plants are cut back. Most species are fairly drought-tolerant and perform well in full sun and well-drained soil.

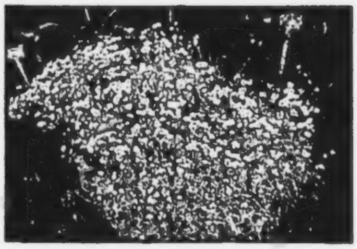


74. Mountain bluet tends to require constant maintenance if grown in a tidy garden. It requires division about every two years to maintain desirable plants. Placement of this plant might be better in an informal setting due to its aggressive and sprawling growth habit.

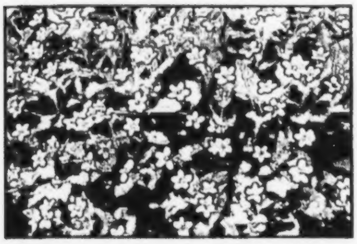


75. ***Cerastium tomentosum*** **Caryophyllaceae**
(se-ras'tee-um toe-men-toe'sum) Habitat: Native to Italy
SNOW-IN-SUMMER

This 6-inch-tall, mat-forming perennial is characterized by white-wooly (tomentose) silvery leaves. The white flowers, 1 inch in diameter, appear in May and June. The plants should be located in full sun in dry soil that is low in fertility.

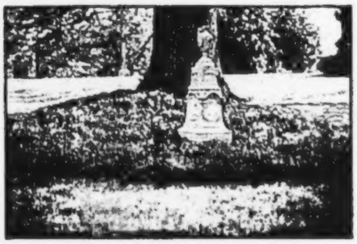


76. *Cerastium* spreads rapidly on moist, fertile soil. This often means annual division to prevent its overrunning choicer perennials. There are few pest problems. Division is possible in spring or fall and softwood cuttings can be taken in early summer.



77. ***Chrysogonum virginianum*** **Compositae**
(kris-sog'o-num ver-jin-ee-ay'num)
GOLDEN STAR Habitat: Native to eastern United States

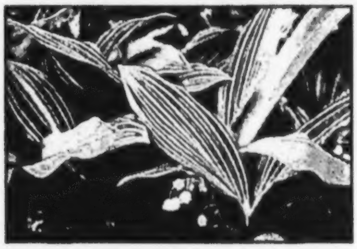
The leaves of golden star are oval and scalloped on the edges. The most attractive feature of this perennial is the five-petaled, golden yellow flowers, which are on the plant from May to October. Golden star is suitable as a ground cover in sun or partial shade. *Chrysogonum* is 8 inches tall and spreads rapidly, particularly in moist, humus-rich soil. This species has no serious diseases or insect pests.



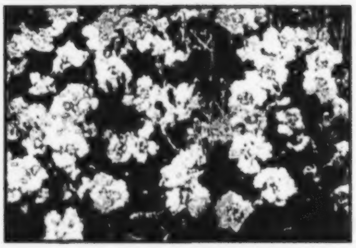
78. ***Convallaria majalis*** **Liliaceae**
(kon-vuh-lare'ee-uh muh-jay'lis) Habitat: Native to Europe
LILY-OF-THE-VALLEY

Lily-of-the-valley grows 6 inches tall and is used as a ground cover.

79. The flowers are bell-shaped, fragrant, and borne on a nodding raceme during May. *Convallaria* needs room to spread; consequently, it probably should not be placed in the perennial border. Lily-of-the-valley is an excellent choice as a ground cover beneath shade trees.

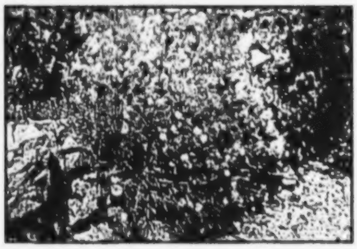


80. A cultivar, 'Striata,' has thin white stripes on the foliage.



81. ***Dianthus plumarius*** **Caryophyllaceae**
(die-an'thus ploo-mare'ee-us) Habitat: Native to Europe
COTTAGE PINK, GRASS PINK, SCOTCH PINK,
PHEASANT'S-EYE PINK

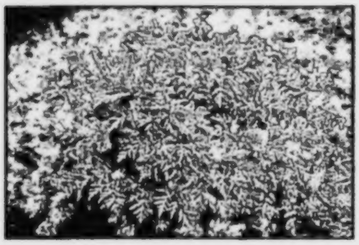
This *Dianthus* has evergreen foliage. The leaves are 2 to 4 inches long, narrow and linear in shape, with a prominent midrib. Like its cousin the carnation, the flowers of cottage pink are fragrant. Flower colors can be pink, red, white, or bicolored. Peak flowering is in May and June.



82. Cottage pinks perform better in well-drained alkaline soil that is located in full sun. In areas with hot summers, adding leaf mold or compost will be beneficial. The plant is round in habit and varies in height from 8 to 18 inches, with most plants near 12 inches. 'Allwoodii' is a compact form of a hybrid between *D. plumarius* and *D. caryophyllus*, which is an annual. Division, the propagation method used by most gardeners, is best done in the spring.

83. ***Dicentra eximia*** **Fumariaceae**
(die-sen'truh eks-im'ee-uh) Habitat: Native to the mountain areas of New York and Pennsylvania to Georgia and Tennessee
FRINGED BLEEDING-HEART, PLUME BLEEDING-HEART, WILD BLEEDING-HEART, TURKEY CORN, STAGGERWEED

Fringed bleeding-heart is one of two species that can be found in perennial gardens. The foliage of this species is more dissected than that of *D. spectabilis* (#85). The pink to purple flowers are heart-shaped and borne in compound racemes. Flowering is from May to September, a longer period than for *D. spectabilis*.

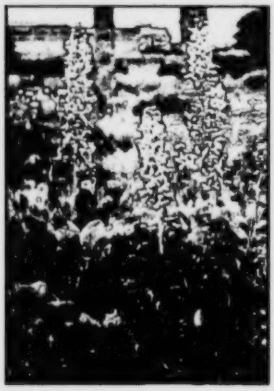


84. Fringed bleeding-heart develops into a 24-inch rounded clump. A partially shaded site and well-drained humus soil are ideal. *D. eximia* will not tolerate wet soils in winter or dry soils in summer. Full sun is suitable provided there is abundant moisture. Hybrids of this species include 'Adrian Bloom' – crimson-red flowers, 'Bountiful' – deep pink flowers, and 'Luxuriant' – red flowers. Spring division should be done every three to four years.

85. ***Dicentra spectabilis*** **Fumariaceae**
(die-sen'truh spek-tab'il-is) Habitat: Native to Asia and North America
BLEEDING HEART, LYRE FLOWER

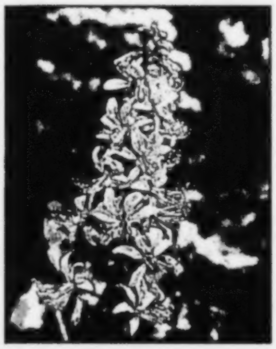
This plant is an old-fashioned species which has been a garden favorite for years and will grow strongly for anyone. Bleeding heart is characterized by heart-shaped flowers, which hang down from a nodding raceme. It has often been called "the living valentine."

86. Bleeding heart grows taller (2 to 3 feet) than fringed bleeding-heart. Flowering is in May and June. The foliage of *D. spectabilis* may also die after flowering, so a filler plant should be used to cover the bare area. Best growth of this species is in partial to full shade in soils with high amounts of organic matter.



87. ***Dictamnus albus*** **Rutaceae**
(dik-tam'nus al'bus) Habitat: Native to Europe
GAS PLANT, BURNING BUSH, DITTANY, FRAXINELLA

The foliage of gas plant is pinnately compound with 9 to 11 leaflets, and these have a lemon-like fragrance. The flowers of the species are white, ...



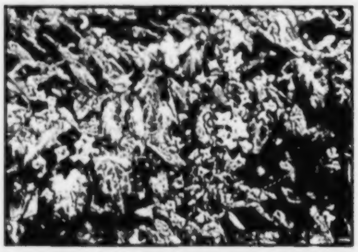
88. … while those of 'Purpurea' are rose-pink. Blooming in May and June, the flowers are found on showy, terminal racemes on plants that are 2 to 3 feet tall.

89. Gas plant can be used as a specimen plant or it can be massed so that the glossy green foliage can serve as a background for smaller plants. Gas plant is not invasive, so it can remain undisturbed for a number of years. It is also relatively pest-free.

90. ***Doronicum cordatum*** **Compositae**
(doe-ron'ik-um kor-day'tum) Habitat: Native to southeastern Europe
LEOPARDSBANE

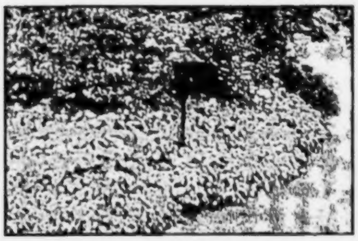
The leaves of this species are cordate at the bases and the margins are coarsely dentate. The single flower heads are bright yellow and are borne on peduncles that rise 12 to 16 inches above the foliage. Total height of this species is 24 to 36 inches. May and June are the peak flowering period.

91. Leopardsbane is shallow-rooted. Because of this, an organic addition to the soil is beneficial. Both full sun and partial shade are good exposures. *Doronicum* is not heat-tolerant and performs poorly in southern zones. Plants are easily divided in late summer. No serious insect or disease problems threaten this plant.



92. ***Epimedium*** x ***rubrum*** **Berberidaceae**
(ep-eh-mee'dee-um roo'brum) Habitat: Hybrid origin
BARRENWORT

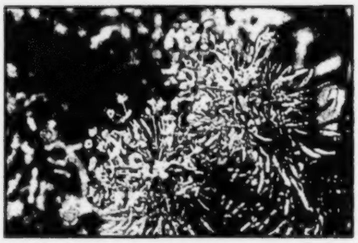
Barrenwort is a 12-inch-tall perennial that is most often used as a ground cover for shade areas. Light to full shade is a good growing location, but this plant can also tolerate full sun if the soil is kept moist during the summer. Very dry conditions must always be avoided. Barrenwort has yellow flowers in May and June.



93. The semi-evergreen foliage is tinged with red when emerging in spring. Because of this foliage feature and its use as a ground cover, barrenwort is a valued plant for the landscape. Division is possible in spring or fall. Barrenwort is generally pest-free. There are a number of species in the *Epimedium* genus; most are very desirable additions to the landscape.

94. ***Euphorbia cyparissias*** **Euphorbiaceae**
(you-for'bee-uh sye-par-iss'ee-us) Habitat: Native to Europe
CYPRESS SPURGE

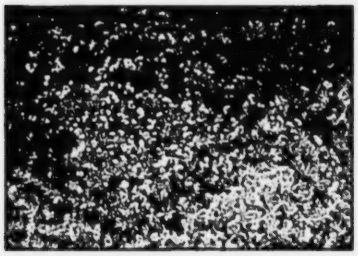
Cypress spurge is 12 inches tall and has a spreading habit. The foliage is narrow and linear, very soft, and exudes a milky sap from broken stems or foliage. The milky sap is characteristic of the spurge family (Euphorbiaceae). The yellow flowers bloom in May and June, but this plant is often grown for its foliage effect through the season.



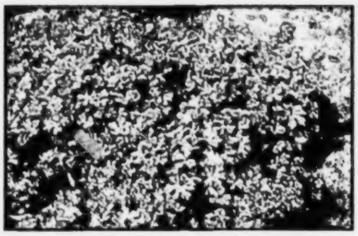
95. Cypress spurge does extremely well in full sun and in dry soils, particularly on slopes where little else will grow. Cypress spurge can be left undisturbed indefinitely. However, if it becomes invasive, it can be carefully divided in spring or fall.

96. ***Galium odoratum*** **Rubiaceae**
(gay'lee-um o-dor-ay'tum) Habitat: Native to Europe,
North Africa and Asia
WOODRUFF, SWEET WOODRUFF, WOODROOF

Sweet woodruff is an old-fashioned perennial that is useful for the rock garden, in a naturalized area, and as a ground cover in full shade. The fragrant dried foliage is also excellent for sachets and potpourris. The leaves are arranged in whorls atop 6- to 8-inch-tall stems. White flowers are abundant in May and June.



97. For good appearance throughout the growing season, sweet woodruff should be planted in partial to full shade in moist, well-drained soil. If grown in a dry, sunny area, the foliage may die before summer's end. There are no serious pests.



98. ***Geranium himalayense*** **Geraniaceae**
(je-ray'nee-um him-uh-lay'enz) Habitat: Native to India and China
LILAC CRANESBILL

Lilac cranesbill is just one of a large number of species within the genus *Geranium*. It is 18 to 24 inches tall and forms a rounded clump about 18 inches wide. There are two flowers borne on each flowering stem during May to July. Each flower has lilac-colored petals with purple veins.

99. Lilac cranesbill should be planted in full sun to partial shade. It does well in most soil conditions. However, optimum growth occurs in moist, well-drained soil. This species can be propagated by seeds, stem cuttings in summer, or division.

100. ***Hemerocallis*** species **Liliaceae**
(hem-er-o-kal'lis) Habitat: Native to central Europe, to China and Japan; however, most selections are now hybrids
DAY LILY

The day lily is one of the most durable and permanent perennials for the garden. This plant has long linear leaves and ranges in height from 12 inches to 3 or 4 feet. Day lily forms large clumps with erect flower stems.

101. There is a wide variety of flower colors and hundreds of cultivars from which the day lily fancier can choose.

102. Day lilies can be located in full sun or partial shade. Best growth occurs in soils supplied with organic matter. However, the day lily also does quite well on dry sites. There are no serious pests. The day lily is such a proven survivor that it may one day become the symbol of abandoned or overgrown gardens.

103. ***Incarvillea delavayi*** **Bignoniaceae**
(in-kar-vil'ee-uh del-uh-vay'i) Habitat: Native to China
HARDY GLOXINIA, CHINESE TRUMPET FLOWER

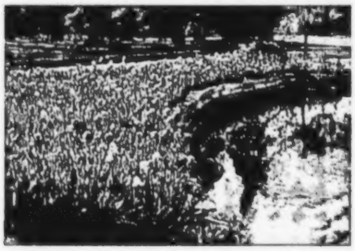
The deep green leaves of hardy gloxinia are basal and pinnately compound.

104. The lavender flowers are about 2 inches long and are held at right angles to the stem on short stalks. Peak flowering occurs in May and June with sporadic flowering into July. *Incarvillea* requires fertile, well-drained soil located in the sun or partial shade. A winter mulch is beneficial in northern areas and helps prevent winter damage. Established plants can be divided in the fall.

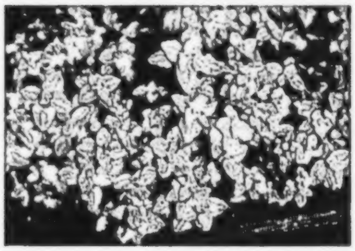
105. ***Iris*** **hybrids** **Iridaceae**
(i'ris) Habitat: Hybrid origin
BEARDED IRIS

Bearded iris is a 2- to 3-foot erect plant. The leaves are sword-shaped, rigid, and 18 inches long. There are one or more flowers per stem and each is divided into six segments.

106. The outer three segments (falls) of the flower droop and the inner three segments (standards) are usually erect. Flower colors are numerous and vary with the cultivar, of which there are hundreds. Flowering starts in late May and continues through June.



107. Division of the rhizomes in August is the normal propagation method. Bearded iris is susceptible to the iris borer. The damage done by this insect opens the rhizome to invasion by bacterial soft rot. Full sun and well-drained soil are essential. Excellent drainage will aid in preventing bacterial soft rot. The species of these hybrids was known as *Iris germanica*.

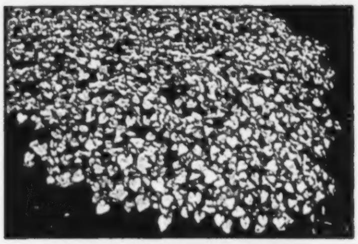


108. ***Lamium maculatum*** **Labiatae**
(lay'mee-um mak-u-lay'tum) Habitat: Native to Europe and Asia; naturalized in North America
SPOTTED DEAD NETTLE

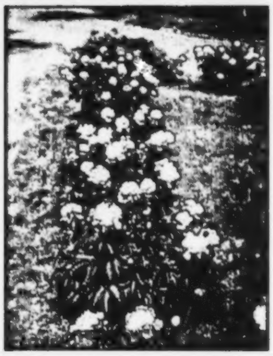
Spotted dead nettle is prostrate at its base with erect or ascending branches that will grow to 12 inches. The ovate leaves, often pubescent, have whitish-silver blotches over the middle.

109. The pinkish-purple flowers are present in May and are two-lipped (mint family or Labiatae). Spotted dead nettle is easily grown in most soils, especially those in the shade. In fact, it can become invasive if placed in an area with limited room to spread.

110. Cultivars of importance include 'Album' – white flowers (shown here), 'Aureum' – yellow variegation, …

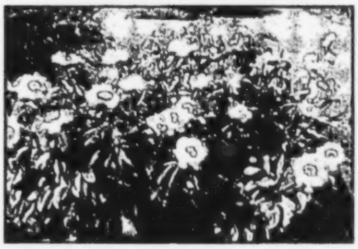


111. …and 'Beacon Silver' – leaves variegated with silver markings over much of the leaf.

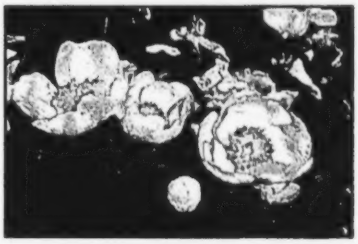


112. ***Paeonia lactiflora*** **Paeoniaceae**
(pee-o'nee-uh lak-ti-flor'uh) Habitat: Native to China, Mongolia and Siberia
CHINESE PEONY, COMMON GARDEN PEONY

The Chinese peony is a May- and June-flowering perennial which has been an old favorite for many years. It is a 3-foot-tall plant with equal spread, creating a round growth habit.



113. Chinese peony is used as a specimen plant or for cut flowers. There are hundreds of cultivars available with different colors and flower types.



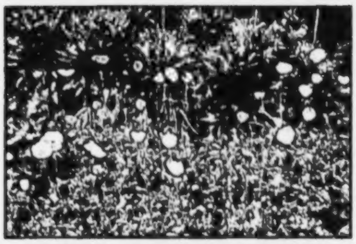
114. Chinese peony should be planted in deep, fertile soil in full sun or light shade. Too much shade inhibits flowering, as does competition from tree roots or a late spring freeze.

115. ***Paeonia suffruticosa*** **Paeoniaceae**
(pee-o'nee-uh suf-froo-tic-o'suh) Habitat: Native to China
TREE PEONY

Tree peony is a cross between a herbaceous and a woody plant. Unlike the Chinese peony, which dies to the ground each year, the tree peony retains the woody stems with the leaves abscising.

116. Tree peony is 3 to 5 feet tall, larger than the Chinese peony. The flowers are also larger, with some reaching 12 inches in diameter. Flowers are mostly red, pink, yellow or white and are present in early to mid May.

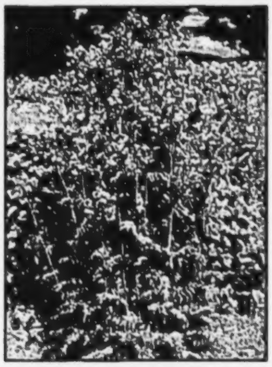
117. Tree peony is usually grown as a grafted plant with the herbaceous peony as a root stock. The tree peony was discovered in China some 1,600 years ago. The cultivar selection is quite extensive with this species.



118. ***Papaver nudicaule*** **Papaveraceae**
(pap-pay'ver new-dik-call'ee) Habitat: Native to North America
ICELAND POPPY, ARCTIC POPPY

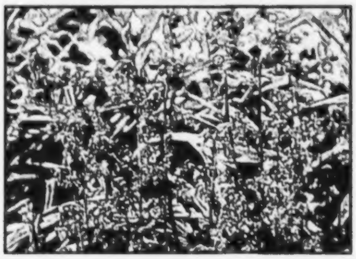
The leaves of Iceland poppy are mostly basal, pinnately lobed, and about 6 inches in length. The flowers rise above the basal foliage on long leafless stalks. Each flower is 1 to 3 inches across and comes in such colors as orange, yellow, pink, red, or white.

119. The petals have the texture of crepe paper. Iceland poppy is in flower from May to July, a longer blooming season than oriental poppy (#220). Iceland poppy requires a well-drained site in full sun or partial shade. In areas where summers are extremely hot and humid, the flowering period will be restricted to the earlier spring period.



120. ***Polemonium caeruleum*** **Polemoniaceae**
(pol-eh-mo'nee-um seh-roo'lee-um) Habitat: Native to North America
JACOB'S-LADDER, GREEK VALERIAN, CHARITY

Jacob's-ladder has basal leaves which form a dense mound and stems which reach 24 to 36 inches high. Individual leaves are pinnately compound.



121. The blue flowers are cupped and borne in loose-panicled clusters that are 4 to 6 inches long. Peak bloom is in May and June. *Polemonium* does poorly in sites that are extremely hot and sunny; in such locations the foliage becomes unsightly. The variety *album* has white flowers, and 'Blue Pearl,' growing 12 to 18 inches tall, has light blue flowers with yellow centers.

122. ***Polygonatum biflorum*** **Liliaceae**
(po-lig-o-nay'tum bi-flor'um) Habitat: Native to North America
SMALL SOLOMON'S SEAL

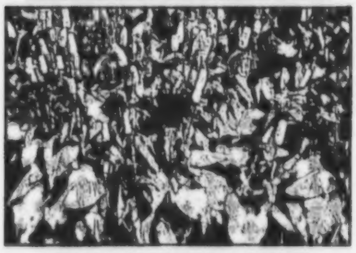
Solomon's seal is a graceful plant with long arching stems 2 to 3 feet tall.

123. The yellowish-green to white flowers are borne on the lower side of the upper half (or so) of the leafy stem in 1- to 3-flowered peduncles. Solomon's seal is in flower in May and June. It should be planted in the shade in cool, moist soil.

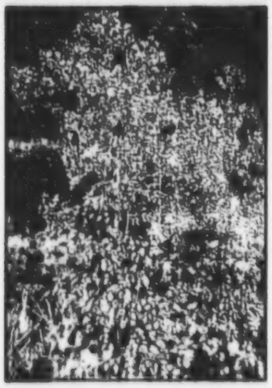
124. The fruit of Solomon's seal is small, dark-blue berries. The best landscape use is in naturalized areas, shrub borders, or the shadiest part of the perennial border. Division is the easiest method of propagation and requires simply digging the rhizomes, dividing with a knife, and replanting.

125. ***Polygonum bistorta*** **Polygonaceae**
(po-lig'o-num bis-tor'tuh) Habitat: Native to Europe and Asia
SNAKEWEED, BISTORT

Snakeweeed is a strong, clump-forming plant growing as tall as 36 inches. It has wide ovate leaves. The cultivar 'Superbum' is most often planted.

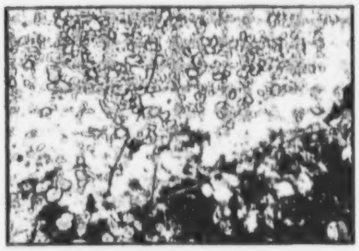


126. In May and June the basal leaves are overtopped by branching stems terminated by dense spikes of pink flowers. Flowering will continue if the plant receives good moisture. 'Superbum' does best in moist soil in sun or partial shade. In northern areas this species should be mulched in the winter.

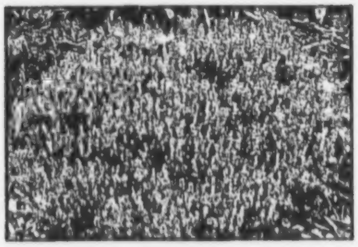


127. ***Thalictrum rochebrunianum*** **Ranunculaceae**
(tha-lik'trum rok'brun-ee-ay'num) Habitat: Native to Japan
LAVENDER MIST MEADOWRUE

Lavender mist meadowrue is one of several members of this genus which have fine-textured foliage and gray-green to blue-green, pinnately-compound leaves. This species grows 4 to 6 feet tall. Its lavender-violet flowers bloom in May and June. The flowers have no true petals, but petal-like sepals and many yellow stamens.

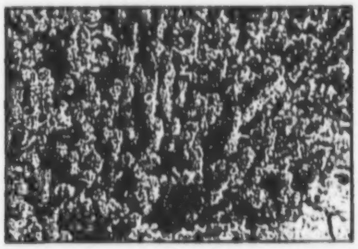


128. The native habitat of *Thalictrum* is wooded areas; consequently, plants do best in partial shade. Plants in full sun should be planted in soil which is moist and high in organic matter. Meadowrue should be divided in spring. There are no limiting insect or disease problems.



129. ***Thymus serpyllum*** **Labiatae**
(thi'mus ser-pil'um) Habitat: Native to Europe
MOTHER-OF-THYME, CREEPING THYME

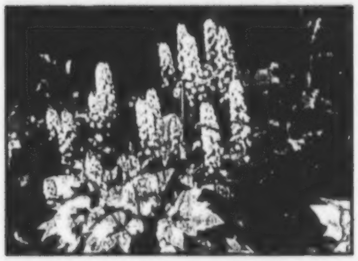
Mother-of-thyme has 1/4-inch-long opposite leaves which have a strong mint-like fragrance. The plant is 3 to 6 inches tall and has a mat-like form. Thyme is often used in rock gardens and herb gardens, or planted on stone walls or among paving stones. *Thymus vulgaris* (common thyme) is the species used for seasoning poultry and pork.



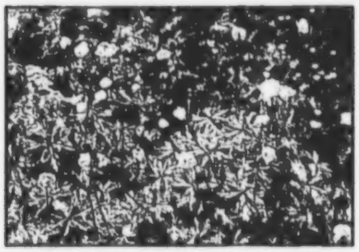
130. Although mother-of-thyme is usually grown for the foliage, in May and June it does have purple flowers which are attractive to bees. Thyme will thrive in poor, dry soil in full-sun sites. *Thymus serpyllum* 'Aureus' has yellow variegated foliage and *T. s.* var. *vulgaris* has lemon-scented leaves.

131. ***Tiarella cordifolia*** **Saxifragaceae**
(tie-uh-rel'uh kor-dif-foe'lee-uh) Habitat: Native to eastern United States
FOAM FLOWER, ALLEGHENY FOAM FLOWER,
FALSE MITREWORT

The leaves of *Tiarella* are pubescent, arise from the base of the plant, and resemble the leaves of coralbells. The basal leaf structure develops into a 6-inch compact plant which is useful as a ground cover.



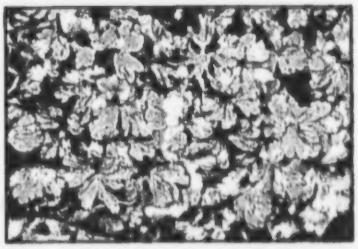
132. The white flowers have five petals and ten stamens, the latter being conspicuously exserted. Peak flowering occurs in May. Optimum growth occurs in a cool moist site in soil high in organic matter. *Tiarella* is an excellent plant for placement in shaded areas, including borders, rock gardens, and woodland sites. Clump division is easily done in the spring.



133. ***Trollius europaeus*** **Ranunculaceae**
(troll'ee-us you-ro-pee'us) Habitat: Native to northern Europe
GLOBEFLOWER, COMMON GLOBEFLOWER,
EUROPEAN GLOBEFLOWER

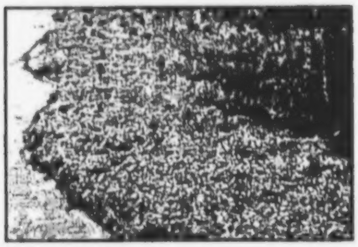
Globeflower is an 18- to 24-inch, erect plant which flowers in May and June. The lemon-yellow flowers are globe-shaped, 1 to 2 inches across, and are borne solitary or in twos on terminal stems.

134. Globeflower can be grown in full sun or partial shade. Best growth occurs in soil that is continuously moist. Globeflower makes an excellent addition to the moist rock garden or the border of a wildflower garden, along a stream, or around a pond. Division can be done in spring or summer.



135. ***Waldsteinia fragarioides*** **Rosaceae**
(wald-stine'ee-uh fruh-gare'ee-oi'deez) Habitat: Native to
BARREN STRAWBERRY northeastern United States

Waldsteinia has three leaflets which are similar to those of the true strawberry, *Fragaria* x *ananassa*. Barren strawberry spreads by short rhizomes; consequently, it is used as a ground cover or edging plant.



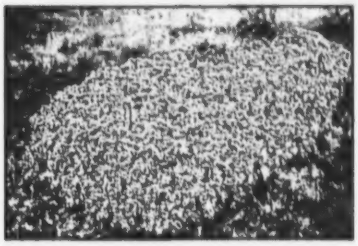
136. The five-petaled yellow flowers are present in May and June. This species tolerates a wide variety of soils and can be found growing in sun or shade. It is easily propagated by division or tip cuttings.

—— June ——

137. ***Achillea filipendulina*** **Compositae**
(ak-il-lee'uh fil-lip-en-dew-line'uh) Habitat: Native to east Asia
FERNLEAF YARROW

All the species of this genus are characterized both by a distinct spicy odor when the foliage is bruised and by segmented leaves, which create a fern-like texture to the foliage. Fernleaf yarrow is a 3- to 4-foot erect plant. Some selections may require staking to keep them neat. The yellow flowers bloom from June to August and are excellent for cutting and drying. With proper drying, the bright yellow color will last for months.

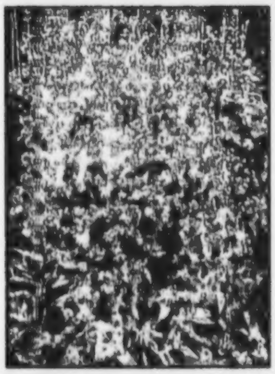
138. Fernleaf yarrow has few insect or disease problems and grows well on most soils, particularly well-drained soils in full sun. The use of cuttings during midsummer is the preferred propagation method. Clumps can also be divided in the spring. 'Coronation Gold' is lower-growing than the species and will require less staking.



139. ***Aegopodium podagraria*** 'Variegatum' **Umbelliferae**
(e-go-po'dee-um po-duh-gra'ree-uh var-ee-uh-gay'tum)
BISHOP'S GOUTWEED Habitat: Native to Europe

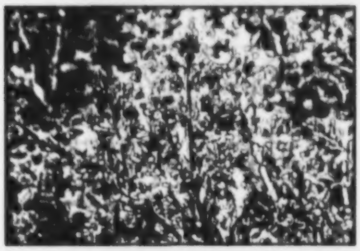
This aggressive ground cover has biternately compound foliage with white-edged variegation on the leaves. Bishop's goutweed is approximately 12 inches tall and spreads easily by underground stems. In fact, it needs to be restricted by a barrier, such as a sidewalk, to prevent its spreading over choicer perennials.

140. The white flowers are arranged in a 2- to 3-inch-wide umbel. The flowers are not showy, while the leaves create a striking contrast of green and white. In periods of hot and humid weather, Aegopodium has severe leaf blight. However, in the fall it tends to recover with the return of drier air. This plant can be grown in sun or shade and has no specific soil requirements.



141. ***Anchusa azurea*** **Boraginaceae**
(ang-koo'suh a-zoo'ree-uh) Habitat: Native to Mediterranean region; naturalized in North America
ITALIAN ALKANET, ITALIAN BUGLOSS

Italian alkanet is a 3- to 4-foot erect plant with a rounded outline. During June and July the plant is covered with bright sky-blue flowers. *Anchusa* is used in herbaceous borders for its bold color, but may be too coarse for some people's taste. It also has a tendency to self-sow, creating volunteer seedlings that need to be thinned.

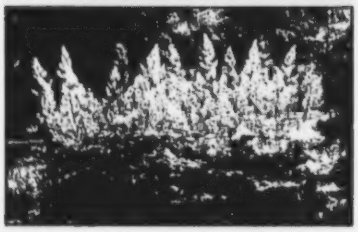


142. Italian alkanet can be propagated by seed, clump division, and root cuttings, all done in the spring. Crown rot can be a problem in wet soils.

143. ***Anthemis tinctoria*** **Compositae**
(an'theh-miss tink-to'ree-uh) Habitat: Native to eastern Europe
GOLDEN MARGUERITE, GOLDEN CHAMOMILE,
OX-EYE CHAMOMILE

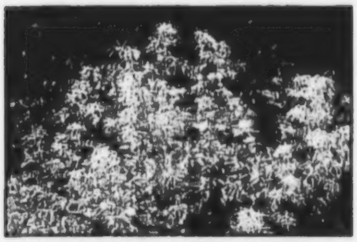
This member of the composite family is a natural for dry areas. The yellow 2-inch-in-diameter flowers are present from June to September. *Anthemis* is derived from *anthemon*, meaning "free flowering." The flower stalks grow 18 to 24 inches above the basal foliage. The leaves are aromatic and have a white pubescence on the lower surface.

144. *Anthemis* should be planted in full sun in well-drained soil. It is not persistent when grown in heavier soils. Clumps often develop a dead spot in the middle. Important cultivars are 'Kelwayi' with yellow flowers (shown here), 24 inches tall; 'Moonlight' with pale yellow flowers; and 'Beauty of Grallagh' with deep yellow flowers on 30- to 36-inch-tall plants.



145. ***Aruncus dioicus*** **Rosaceae**
(uh-run'kus di-o-ike'us) Habitat: Native to North America
GOATSBEARD

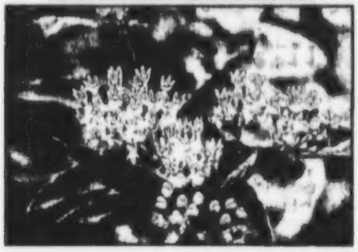
Goatsbeard is a 4- to 6-foot-tall plant that resembles an overgrown *Astilbe*. The pinnately compound leaves are finely divided, imparting a fern-like texture to the foliage. Feathery plumes of white flowers appear in June and July at the apex of the stems.



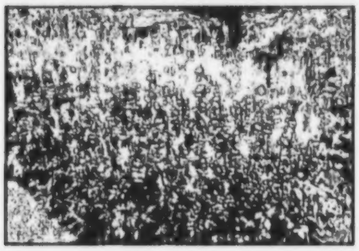
146. This species thrives in any soil, dry or moist, sun or shade. It has many uses in the garden—from a border planting to specimen use, or as a waterside planting. Goatsbeard blooms at the same time as the shrub roses and so is a good companion plant to these woody ornamentals. Goatsbeard can be divided in the fall.

147. ***Asclepias tuberosa*** **Asclepiadaceae**
(as-klee'pee-us too-beh-ro'suh) Habitat: Native to eastern North America
BUTTERFLY WEED, PLEURISY ROOT, INDIAN PAINTBRUSH, CHIGGER FLOWER

Butterfly weed grows to 3 feet in height and forms a rounded plant when full grown. The flower color is bright orange; peak flowering is June through August. This species is well adapted to full sun and dry, infertile sites. It grows as a native plant in the Flint Hills of Kansas. It can be used in the landscape as a specimen or border plant; the milkweed-type of follicles (fruit) are attractive in dried flower arrangements.

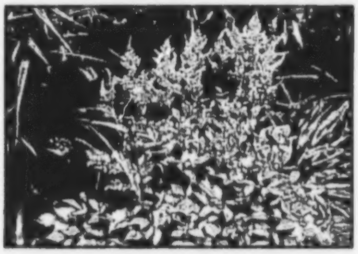


148. *Asclepias* has a taproot; consequently, division is difficult on larger plants. Root cuttings or seeds are desirable propagation methods.

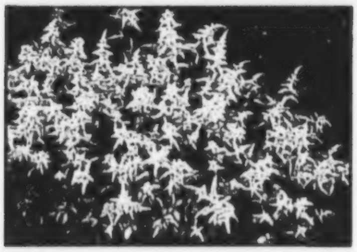


149. ***Astilbe*** **x** ***arendsii*** **Saxifragaceae**
(uh-stil'bee uh-ren'see-eye) Habitat: Native to China,
FALSE SPIREA, ASTILBE Japan and Korea

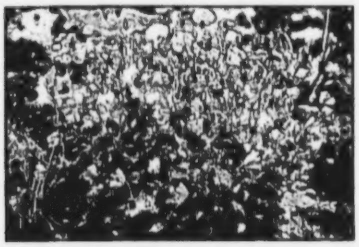
False spirea is a natural for moist to wet sites near water areas. In fact, moist soil in summer is more important to good growth than exposure, which can be sun or partial shade. The growth habit is erect to rounded. This species grows 2 to 3 feet tall.



150. Flower colors are red, pink, white, or lavender.

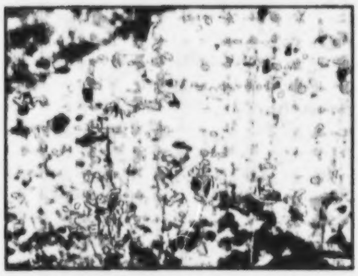


151. Common cultivars are 'Deutschland' – white (shown here); 'Fanal' – carmine (#149); 'Red Sentinel' – red. Divide plants in early spring when growth is approximately 1 inch tall. There are few disease problems, but Japanese beetle and spider mites can be troublesome insect pests.

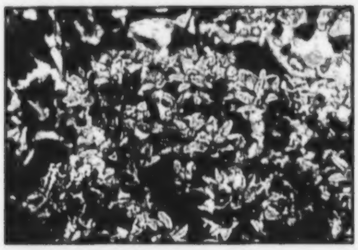


152. ***Campanula carpatica*** **Campanulaceae**
(kam-pan'u-luh kar-pat'ti-kuh) Habitat: Native to southern Europe
CARPATHIAN HAREBELL, CARPATHIAN BELLFLOWER,
TUSSOCK BELLFLOWER

This plant is one of the smallest species in the genus *Campanula*. The stems are nearly decumbent and the total height is approximately 6 inches. The rounded habit and small size make it an attractive plant for the rock garden or all small areas.



153. The 1- to 2-inch-in-diameter blue flowers are present from June through August. There are also white- or purple-flowered cultivars. Site this plant in sun to partial shade in well-drained soil. Diseases and insects are minimal. Division in spring or fall is suitable.



154. ***Campanula glomerata*** **Campanulaceae**
(kam-pan'u-luh glom-er-ay'tuh) Habitat: Native to Europe and Asia
CLUSTERED BELLFLOWER, DANES-BLOOD BELLFLOWER

Clustered bellflower is 18 to 24 inches tall and has an erect growth habit. Peak flowering occurs in June and July. The purple-blue flowers are borne in dense terminal clusters composed of 15 to 20 individual flowers.

155. This species of *Campanula* is easily grown in sunny or shady areas. In fertile soils, it can spread rapidly, prompting the need for division about every two or three years. 'Joan Elliott' is a popular cultivar with deep violet flowers.

156. ***Campanula medium*** **Campanulaceae**
(kam-pan'u-luh me'dee-um) Habitat: Native to southern Europe
CANTERBURY BELLS

Canterbury bells is actually a biennial but is used frequently as an addition to the perennial border. The cultivar 'Calycanthema' ("cup and saucer") is an old favorite; its wide flattened calyx resembles a saucer and the inner corolla is shaped like a cup. The flowers, which bloom in June and July, can be blue, white or rose. The plant grows 2 to 3 feet tall. Plant canterbury bells in sun or partial shade and moist soil. This plant needs to be renewed each year by sowing seeds. Sow in late spring or summer for flowering the following year.

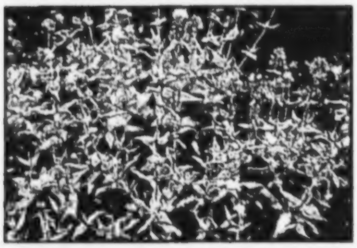
157. ***Campanula persicifolia*** **Campanulaceae**
(kam-pan'u-luh per-sik-if-o'lee-uh) Habitat: Native to Europe
and northeastern Asia
PEACH-LEAVED BELLFLOWER, WILLOW BELLFLOWER,
PEACH-BELLS, PAPER BELLFLOWER

The common name, peach-leaved bellflower, refers to the shape and appearance of the leaves which are slender, dark green, and glabrous like peach leaves.

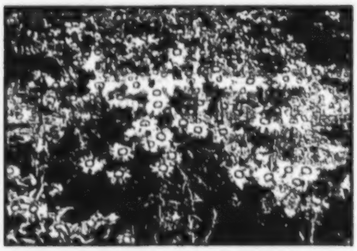
158. The blue or white flowers are borne solitary in a raceme atop 2- to 3-foot-tall plants. Peak flowering is in June or July, but removal of faded flowers promotes flowering after July. Peach-leaved bellflower can be used in the border or naturalized area, or as a cut flower. Division can be done in early spring or late August.

159. ***Centranthus ruber*** **Valerianaceae**
(sen-tran'thus roo'ber) Habitat: Native to Mediterranean region
JUPITER'S-BEARD, RED VALERIAN

This easily-grown perennial is 18 to 30 inches tall and has an erect growth habit. The leaves are glaucous blue-green and contrast well with the red or deep pink flowers.



160. The flowers are borne in dense terminal clusters from June to August. Jupiter's-beard grows well in a full-sun site in well-drained soil. This species does especially well on limestone soils. 'Albus' is a white-flowered form. There are no serious diseases or insect pests.



161. ***Chrysanthemum coccineum*** **Compositae**
(kris-an'theh-mum kok-sin'ee-um) Habitat: Native to Asia & Europe
PAINTED DAISY, PYRETHRUM, PERSIAN INSECT FLOWER

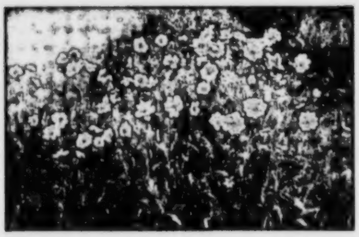
The foliage of this early-flowering chrysanthemum is dissected, imparting a fern-like appearance. The flower heads are usually single. They are borne solitary on sparsely-branched stems, which terminate 2- to 3-foot-tall plants. Peak flowering occurs in June to July. Painted daisy is a popular early summer-flowering perennial that looks best when used as a massed planting. Two excellent cultivars are 'Brenda,' bright red, …

162. … and 'E.M. Robinson,' salmon-pink (shown here). There are no serious pest problems. Propagation is by seed or division in spring or late summer.

163. ***Chrysanthemum* x *superbum*** **Compositae**
(kris-an'theh-mum soo-perb'um) Habitat: Hybrid origin
SHASTA DAISY

Shasta daisy is a dependable flowering perennial with a floral display from late June to frost.

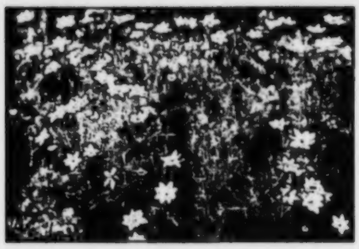
164. The flower heads can be single or double and terminate stems that are 3 to 4 feet tall. There are shorter cultivars, such as 'Little Miss Muffet,' which is about 12 inches tall. Unless smaller cultivars are used, shasta daisy should not be planted in small areas. It grows rapidly and will need dividing every two years to prevent rapid spread. Shasta daisy should be planted in full sun or partial shade. Double-flowering cultivars perform best in partial shade.



165. ***Coreopsis lanceolata*** **Compositae**
(kor-ee-op'sis lan-see-o-lay'tuh) Habitat: Native to United States
COREOPSIS, TICKSEED, LANCE COREOPSIS

This colorful member of the composite family is in bloom from June to September. The yellow flowers are borne on long peduncles (stems) on erect plants which are 2 to 3 feet tall. Coreopsis performs best in full sun and well-drained soil. Removal of flowers encourages continuous bloom. This plant will tend to sprawl unless supported. When more compact plants are desired, the landscaper should select smaller cultivars such as: 'Baby Sun' – 18-20 inches, 'Goldfink' – 10-12 inches, and *Coreopsis auriculata* 'Nana' (dwarf-eared coreopsis) – 4-6 inches tall.

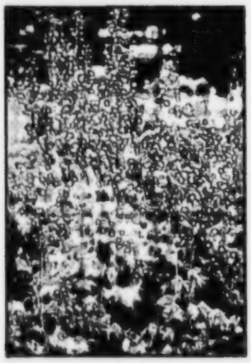
166. Coreopsis is a good plant for the border or cut flowers, or in naturalized areas. It can remain untended for years and still thrive. It is propagated by seed or clump division in the spring.



167. ***Coreopsis verticillata*** **Compositae**
(kor-ee-op'sis ver-tis-sil-lay'tuh) Habitat: Native to eastern United States
THREADLEAF COREOPSIS, WHORLED TICKSEED, POT-OF-GOLD

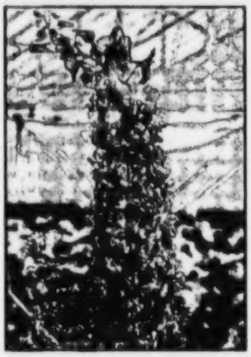
Although this plant is in the same genus as *Coreopsis lanceolata*, the flowers are the only resemblance. The foliage of threadleaf coreopsis is very finely dissected compared to the coarser texture of *C. lanceolata*. The clear yellow flowers are present from June to September on dense, 2-foot-tall plants.

168. Threadleaf coreopsis does best in well-drained, sunny sites. In fact, it is a valued plant for those sites because it is quite drought-tolerant. This species may be a better selection than *C. lanceolata* because it is smaller and does not spread as rapidly or lodge as easily as *C. lanceolata*. Division in spring or fall and seed germination are two easy propagation methods. This species is sometimes sold as 'Golden Showers.'

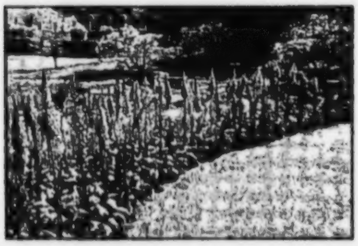


169. ***Delphinium elatum*** **Ranunculaceae**
(del-fin'ee-um ee-lay'tum) Habitat: Native to Europe
DELPHINIUM, LARKSPUR, CANDLE LARKSPUR,
BEE LARKSPUR

Delphinium is a very showy plant and is considered one of the aristocrats of the perennials. The flowers in June and July appear in showy racemes or spikes and are usually blue, but there are cultivars of red, pink, white, violet and yellow.

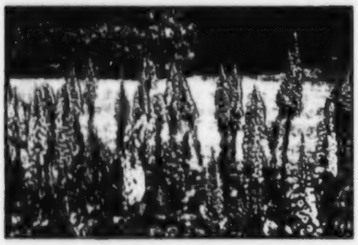


170. The flower is characterized by five petals, the posterior one elongated into a spur. Delphinium ranges in height from 3 to 6 feet; the taller plants may need to be staked. They should be placed in full sun in moist, well-drained soil. The new hybrids are very striking but are not reliably hardy and cannot always be considered "permanent" perennials.



171. ***Digitalis purpurea*** **Scrophulariaceae**
(dij-it-al'lis per-pure'ee-uh) Habitat: Native to Europe and
COMMON FOXGLOVE, northern Africa
FINGER FLOWER, FAIRY GLOVE, PURPLE FOXGLOVE

Foxglove is another biennial that tends to self-sow and remain continuously in the garden as a "perennial." The leaves are rugose (wrinkled) and often pubescent; they become smaller in size toward the top of the stem.

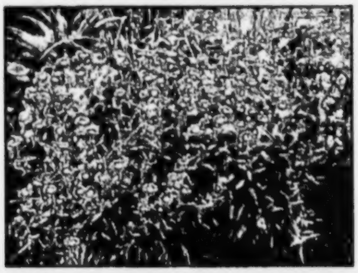


172. The pendulous flowers are borne in a one-sided raceme that is 1 to 2 feet long. The individual corolla is about 2 inches long and varies in color from pink, purple, white, to yellow. This 2- to 5-foot-tall species makes an excellent flower display in June and July. Foxglove is a plant that requires staking. However, if this requirement is met, there is no finer display than a mass planting of foxglove in June.

173. ***Eremurus* x *isabellinus*** **Liliaceae**
(air-eh-mu'rus is-uh-bell'in-us) Habitat: Genus is native to
DESERT-CANDLE, FOXTAIL-LILY western and central Asia

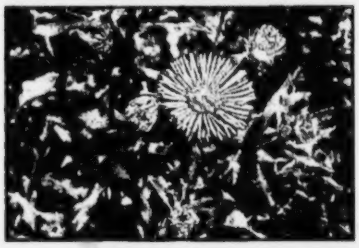
This perennial strikes an imposing figure in the garden. The rosette of leaves is 12 inches tall and bears an erect flower stem that can reach up to 8 feet tall.

174. The flowers are of various colors and are arranged in racemes that are 1 to 4 feet long. Flowering occurs in June. Foxtail-lily should be grown in full sun in a deep, fertile, well-drained soil. Drainage is very important, particularly during the winter. This species is a heavy feeder and should be regularly supplied with fertilizer. *Eremurus* is best used for a vertical element in the perennial border.



175. ***Erigeron speciosus*** **Compositae**
(eh-ridge'er-on spee-see-oh'sus) Habitat: Native to Oregon
OREGON FLEABANE and British Columbia

Although native to the U.S., this species is most commonly used in the landscape in England. Popularity in the United States is low. Fleabane is 18 to 24 inches tall and has an erect growth habit.

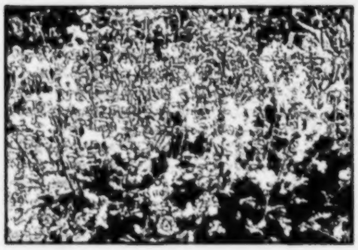


176. The flowers are 1 1/2 inches in diameter with violet-blue ray flowers and yellow disk flowers. *Erigeron* flowers in June and July, with sporadic flowering occurring until September. Best growth is in full sun and well-drained soil. Good drainage is an absolute requirement. Oregon fleabane can be used as cut flowers, in rock gardens, or in perennial borders.

177. ***Gaillardia*** x ***grandiflora*** **Compositae**
(gay-lar'dee-uh gran-di-flor'uh) Habitat: Native to
BLANKET FLOWER, GAILLARDIA western United States

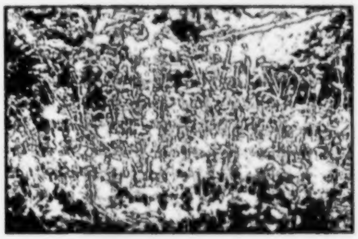
Blanket flower is one of the brightest-flowering perennials during the hot summer season. The species has yellow ray flowers with yellow or purple disk flowers. However, the cultivars vary. Some of these are: 'Baby Cole' and 'Goblin' – red flowers with yellow margins; 'Monarch' (shown here) – combination of red and yellow; and 'Burgundy' – wine-red flowers.

178. Blanket flower grows 2 to 3 feet tall with erect or sprawling stems. 'Baby Cole' and 'Goblin' are compact types that are 12 inches tall. *Gaillardia* should be placed in full sun and well-drained soil.

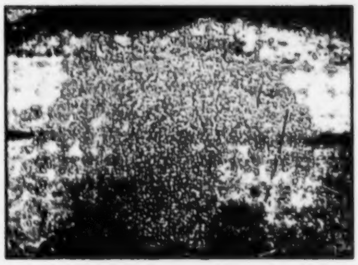


179. ***Geum*** hybrids **Rosaceae**
(jee'um) Habitat: Hybrid origin
GEUM, AVENS

Geum has pinnately compound leaves, many of them basal. Leaflets are unequally toothed and pubescent. The bright flowers of geum are at their peak in June and July. Cultivars come in a variety of colors: scarlet, orange, and yellow, and single or double.

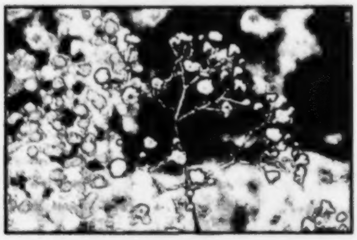


180. 'Mrs. Bradshaw' (shown here) has orange-red double flowers and 'Lady Stradhelm' has yellow semi-double flowers. Geum grows best in cool climates. When grown in the Midwest, geum should be grown in well-drained soil rich in organic matter to retain moisture during the summer. With proper location, these 2-foot-tall plants will reward the gardener with a showy display.

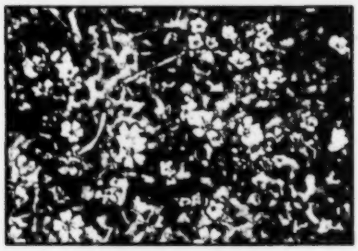


181. ***Gypsophila paniculata*** **Caryophyllaceae**
(jip-sof'il-luh pan-ik-u-lay'tuh) Habitat: Native to Europe
PERENNIAL BABY'S-BREATH and northern Asia

Anyone who has ever arranged flowers is probably aware of this species. Baby's-breath is an excellent plant for cut or dried flowers. It is also a good plant for the display garden. The white flowers start appearing in June and last for about six weeks. This plant assumes a round habit which is 2 to 3 feet tall and wide and has a light, fine-textured appearance.

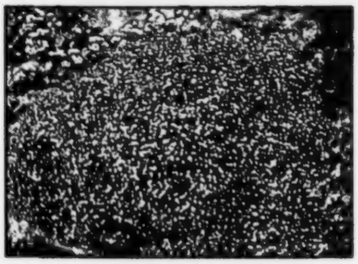


182. Baby's-breath does well in low-nutrient soil with a high pH (7-7.5). Plants may have to be staked. 'Bristol Fairy' – white double flowers, and 'Pink Fairy' – pink double flowers, are two available cultivars.

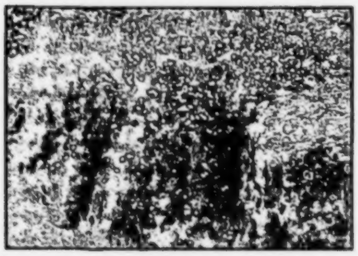


183. ***Gypsophila repens*** **Caryophyllaceae**
(jip-sof'il-luh rep'enz) Habitat: Native to Europe
CREEPING BABY'S-BREATH and southern Asia

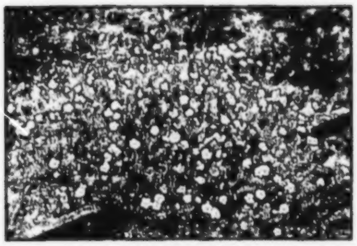
This species is 3 to 6 inches tall and spreads nicely to form a beautiful ground cover in full sun. The species has white flowers from June until frost, …

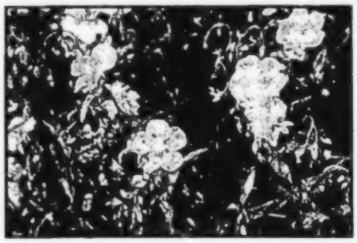


184. … while the variety *rosea* (shown here) has pink flowers.



185. Both would be a valued addition to a rock garden or dry stone wall. There are no serious pest problems. Optimum growth occurs in full sun and well-drained soil. Wet conditions in summer or winter are very detrimental.

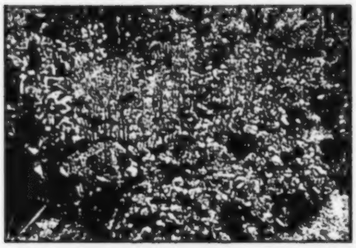




186. ***Helianthemum nummularium*** **Cistaceae**
(he-lee-an'theh-mum num-you-lare'ee-um) Habitat: Native to Europe
COMMON SUNROSE, ROCK ROSE

This semi-evergreen perennial grows 10 to 18 inches tall and forms a low-growing mound with procumbent branches. Rock rose is a very abundant-flowering plant from early June to July. The flowers are usually yellow, but there are cultivars with flower colors of cream, white, pink and red.

187. *Helianthemum* thrives in full sun. Best performance occurs in infertile soil that is very well-drained. Rock rose does especially well when planted in dry soil where other plants do poorly. Landscape use is as a ground cover or as a perennial in a mixed border or rock garden.



188. ***Heuchera sanguinea*** **Saxifragaceae**
(hue'ker-uh san-gwin'ee-uh) Habitat: Native to the Rocky Mountains
CORALBELLS, ALUM ROOT, CRIMSON BELLS

Coralbells is 1 to 3 feet tall with rosette leaves and erect flower stems. The individual bell-shaped flowers are 1/4 to 1/2 inch long and come in red, pink or white. June and July are the normal bloom period, but flowering can be prolonged by removing faded flowers. Some common cultivars are 'Chatterbox' – rose-pink flowers, 'June Bride' – white flowers, and 'Matin Bells' – coral-red flowers.

189. *Heuchera* should be planted in moist soil; consequently, it is an ideal species for planting along streams and pools. There are no serious pests. However, coralbells should be mulched during the winter to prevent frost heaving of the shallow roots.

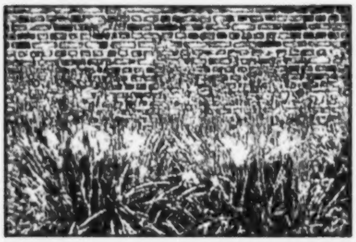
190. ***Iris kaempferi*** **Iridaceae**
(i'ris kem'fer-i) Habitat: Native to Japan and eastern Siberia
JAPANESE IRIS

Flowers of this species are often 6 inches across in colors from white to blue, purple, reddish-purple, and lavender-pink. The three outer segments (falls) are nearly horizontal, while the three inner segments (standards) are short and resemble the falls. The result is a wide, flat flower which differs from the flower of bearded iris. Flowering is during June and July.

191. The sword-shaped foliage is 2 1/2 to 3 feet tall, and the flower stems often extend another 12 inches. Either full sun or partial shade is satisfactory. However, the soil requirements are quite exacting. Inferior growth will result unless the soil is acid, amended with organic matter, and containing good moisture.

192. ***Iris pallida*** 'Variegata' **Iridaceae**
(i'ris pal'lid-uh) Habitat: Native to Europe
ORRIS

This species has the normal sword-shaped, erect foliage characteristic of most irises. However, the yellow and white variegation of the foliage provides interest throughout the growing season and separates this species from other irises. The variegated leaves grow 36 inches tall. The flowers are lavender-blue and appear from June to mid-July. Orris does well in full sun to partial shade and in well-drained soil. *Iris pallida* is one of the irises grown for its fragrant rootstock, which yields **orris**, used in perfumes.



193. ***Iris sibirica*** **Iridaceae**
(i'ris sie-beer'ik-uh) Habitat: Native to central Europe
SIBERIAN IRIS

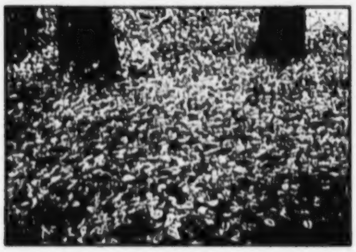
The leaves of Siberian iris are linear, 1/2 inch or less wide. The flowers are white, blue, purple or violet, and there are a number of cultivars from which to choose.

194. Flowering of Siberian iris is in June, between the flowering periods of bearded iris and Japanese iris. Plant in full sun or partial shade in moist, slightly acid soils. Siberian iris is more durable than is Japanese iris.

195. ***Kniphofia uvaria*** **Liliaceae**
(nip-ho'fee-uh you-vare'ee-uh) Habitat: Native to Africa
TORCH LILY, RED-HOT POKER, TRITOMA, POKER PLANT

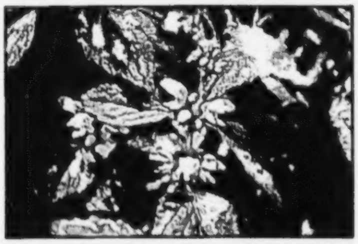
Red-hot poker has linear, sword-shaped leaves, about 1 inch wide and up to 24 inches long. Each leaf is strongly keeled, with a rough margin. *Kniphofia* is a 2- to 4-foot erect plant. The tubular flowers are arranged in dense racemes at the top of the flowering stems.

196. Flower colors are red and yellow on the species, with a greater variety of colors available with the cultivars. June and July are the peak months of flowering. Full sun and well-drained soils are required for successful growth. Soggy soils are nearly always fatal. Division in spring is the preferred propagation method. There are no serious pest problems.

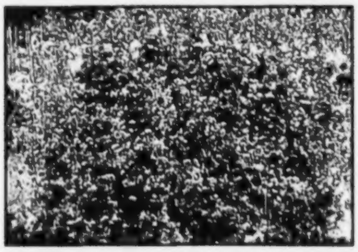


197. ***Lamiastrum galeobdolan*** var. ***variegatum*** **Labiatae**
(lam-ee-as'trum gal-ee-ob'doe-lan var-ee-uh-gay'tum)
VARIEGATED DEAD NETTLE Habitat: Native to Europe

The opposite leaves of this species are variegated silver and green. *Lamiastrum* grows 12 to 18 inches tall and has spreading branches which develop into a ground cover. Partial to full shade is the proper site for dead nettle which is tolerant to drier soils.



198. The yellow flowers are hooded and double-lipped. They are borne in axillary or terminal whorls of 5 to 15 flowers. Flowering is in June and July. Dead nettle is very durable and is a good choice for heavy shade created by dense branching of shrubs and trees.



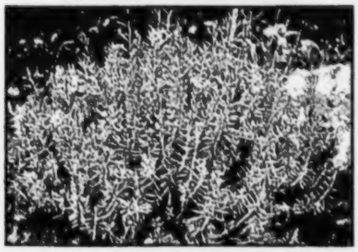
199. ***Lathyrus latifolius*** **Leguminosae**
(lath'er-us lat-i-fo'lee-us) Habitat: Native to Europe
PERENNIAL SWEET PEA, EVERLASTING PEA

Sweet pea used to be a favorite perennial in the past, but now finds little favor with the gardening public. However, for gardens with trellis structures, this plant may be the perfect selection. It is a 4- to 8-foot vine that climbs and attaches by tendrils.

200. The large, pea-like flowers come in pink, red, purple, white, yellow or blue. *Lathyrus* blooms from June to September. It should be grown in full sun in well-drained soil.

201. ***Lavandula angustifolia*** **Labiatae**
(la-van'du-lah an-gus-ti-fo'lee-uh) Habitat: Native to
TRUE LAVENDER, ENGLISH LAVENDER Mediterranean region

True lavender has a compact, rounded growth habit and grows 12 to 24 inches tall, depending upon the cultivar. The leaves are opposite or whorled and the stems are square. The lavender or purple flowers are borne in whorls of six to ten flowers, forming interrupted spikes. These aromatic flowers have been used in sachets and potpourris. Flowering is from June to September.



202. True lavender does very well in full sun and well-drained soil. This species can grow undisturbed for an indefinite period of time. There are no serious pests.

203. ***Linum perenne*** **Linaceae**
(lie'num per-en'ee) Habitat: Native to Europe
PERENNIAL FLAX

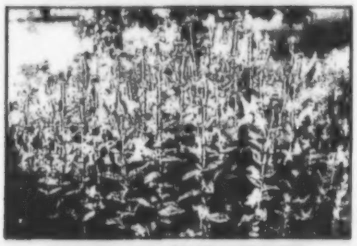
Perennial flax has a fine texture created by small linear leaves and a large number of small blue flowers. The individual flowers last only one day, but they are produced in such profusion that the plant always seems to be in bloom. *Linum* blooms from June through August if soil moisture is good. It grows 24 inches tall and has an upright habit with arching stems.

204. Perennial flax should be planted in full sun and well-drained soil. It cannot be used as a cut flower because the petals usually drop after one day. However, it is very suitable for the perennial border or rock garden.

205. ***Lupinus*** 'Russell Hybrid' **Leguminosae**
(loo-pie'nus) Habitat: Native to North America
RUSSELL HYBRID LUPINE

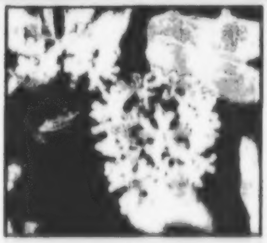
This lupine has long-stalked, palmately compound leaves with 9 to 16 leaflets. The flowers are quite showy. They are borne in terminal racemes that grow up to 18 inches in length. The individual flowers are butterfly-like, a characteristic of the legume family. These hybrid lupines bloom in June in just about every color imaginable. The plants grow 3 to 4 feet tall with an erect habit.

206. The environmental requirements for lupine are very exacting. In cool summer climates, lupine can be grown in full sun. But in hot, dry summer conditions, lupines do well only in partial shade and in cool, moist soil. Mulching is probably a must. Lupines are not widely grown in the Midwest or the South.

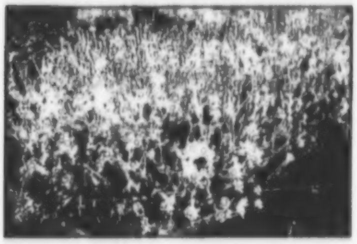


207. ***Lychnis chalcedonica*** **Caryophyllaceae**
(lik'nis chal-sed-on'ik-uh) Habitat: Native to Russia
MALTESE CROSS, JERUSALEM CROSS,
SCARLET LIGHTNING, LONDON PRIDE

The leaves of maltese cross are opposite, rounded or cordate at the base, and sparsely hispid. This species is 2 to 3 feet tall with an erect habit.

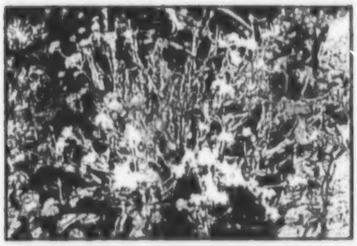


208. The scarlet flowers are arranged in a dense terminal head of 10 to 50 flowers. Flowering occurs in June and July. Plant *Lychnis* in full sun and very well-drained soil, or the plant will be short-lived. Small mass plantings add a bold color to the perennial border.

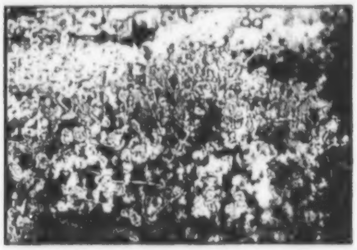


209. ***Lychnis coronaria*** **Caryophyllaceae**
(lik'nis kor-o-nare'ee-uh) Habitat: Native to northwest Africa,
ROSE CAMPION southeastern Europe, and central Asia

Rose campion has an erect habit and grows 18 to 30 inches tall. The leaves and stems are densely pubescent, with a silver-gray color. The rounded flowers are rose-pink, sometimes white, borne singly on pedicels.

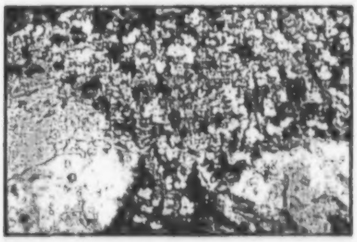


210. Blooming from June to August, the pink flowers are a nice contrast to the silver-gray foliage. *Lychnis* should be placed in full sun. A very light, well-drained soil is an absolute necessity.

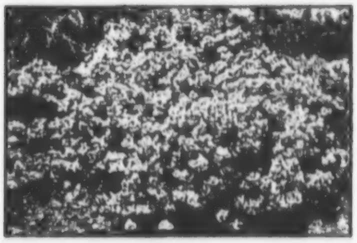


211. ***Lysimachia nummularia*** **Primulaceae**
(lie-sim-ake'ee-uh num-you-lare'ee-uh) Habitat: Native to northern Europe; naturalized in eastern United States
MONEYWORT, CREEPING JENNY, CREEPING CHARLIE, WANDERING SALLY, WANDERING JENNY

"Creeping Charlie" and "Wandering Sally" are perfect common names to describe the growth habit of this species. It is very invasive, so its use in the border may be limited.



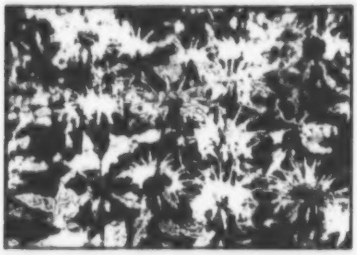
212. However, it is a useful plant for covering banks, stone walls, etc. Moneywort is a low, creeping plant, 2 to 4 inches tall, with roots at the nodes of the trailing stems. In June the plant is covered with large numbers of yellow cup-shaped flowers.



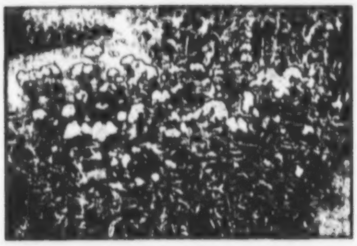
213. The cultivar 'Aurea' also has yellow foliage, and so is very dominant in the landscape. Moneywort is easily propagated by division or cuttings.

214. ***Monarda didyma*** **Labiatae**
(mo-nar'duh did'im-uh) Habitat: Native to eastern North America
BEE BALM, OSWEGO TEA, MONARDA, BERGAMOT, HORSEMINT, RED BALM

Monarda is a perfect illustration of the mint family (Labiatae). It has opposite leaves, square stems, and aromatic foliage when crushed.



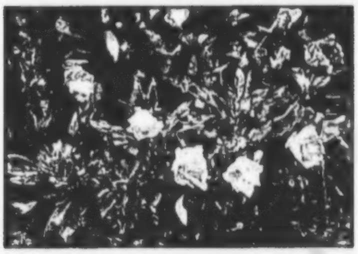
215. The red tubular flowers are borne in single or double whorls at the top of the plants. Bee balm is 2 1/2 to 3 feet tall and flowers from June to August. In addition to the red flowers of the species, there are cultivars with varying flower colors. 'Croftway Pink' – rose-pink, and 'Snow Queen' – white, are two such selections. Oswego tea should be planted in full sun and moist soil. It should also be located where its spreading tendencies will not be harmful. Naturalizing is good.



216. ***Oenothera fruticosa*** **Onagraceae**
(e-no-ther'uh fru-ti-ko'suh) Habitat: Native to United States
SUNDROPS

This species of Oenothera is an erect plant 9 to 12 inches tall.

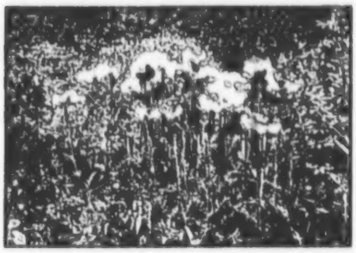
217. The canary-yellow flowers, 1 to 2 inches wide, are best in mid-June to early August. All *Oenothera* should be planted in full sun in well-drained soil. They are excellent additions to rock garden settings. Named cultivars can be produced from cuttings taken in late summer or by division in early fall or spring.



218. ***Oenothera missouriensis*** **Onagraceae**
(e-no-ther'uh miz-oor'ee-en'sis) Habitat: Native to south central United States
MISSOURI PRIMROSE, OZARK SUNDROPS

Missouri primrose has a trailing habit, with ascending tips 6 to 10 inches tall.

219. The yellow flowers are quite large (4 to 5 inches); they bloom from June to August. This species should be placed in full sun in well-drained soil. It is suitable for use in the border front, rock garden, or naturalized area. The delicate flowers are an attractive addition to any garden.



220. ***Papaver orientale*** **Papaveraceae**
(pa-pay'ver or-ee-en-tay'lee) Habitat: Native to Mediterranean region
ORIENTAL POPPY

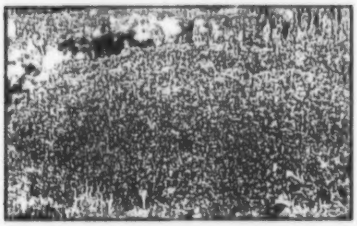
The leaves of oriental poppy are distinctly different from those of iceland poppy (#118). Oriental poppy has hispid leaves up to 12 inches long and sharply lobed or toothed. The broken stem or leaf exudes a white sap. The flowers have the same shape as those of iceland poppy but are much larger—4 to 6 inches across.

221. Flower colors are orange-red, white or pink with a mound of black pollen-bearing stems in the center of the flower. Peak flowering is in June. Oriental poppy ranges in height from 2 to 4 feet. Well-drained soil in full sun is required for best performance of oriental poppy. Wet soil conditions in winter lead to rapid decline. The foliage of oriental poppy dies back considerably after flowering, so other perennials should be planted to fill in.

222. ***Penstemon*** hybrids **Scrophulariaceae**
(pen-stee'mun)
Habitat: Native to Mexico and United States
PENSTEMON, BEARDTONGUE, PRAIRIE FIRE

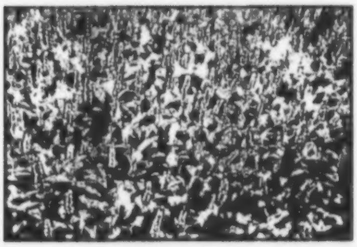
This midsummer-flowering perennial has opposite, lanceolate leaves 2 to 4 inches long. The flowers can be scarlet, pink or white; they are borne on thin-stemmed spikes that can reach 18 to 24 inches high.

223. Penstemon does well in full sun or partial shade in well-drained soil. It can be used effectively in a naturalistic setting, but is most often found in the perennial garden. Division should be done in the spring.

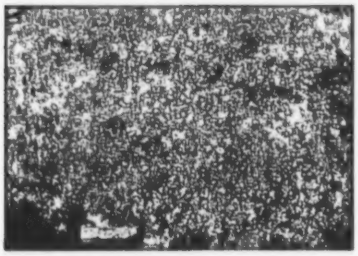


224. ***Polygonum affine*** **Polygonaceae**
(po-lig'o-num af-fin'ee) Habitat: Native to Nepal
DWARF KNOTWEED

Dwarf knotweed is a low-growing perennial up to 6 inches tall, with narrow, linear, dark-green leaves. A closely related species, *P. bistorta* (#125), is a larger plant (up to 36 inches tall) with wide ovate leaves. The growth habit of dwarf knotweed results in a dense mat, making the plant well-suited as a ground cover.

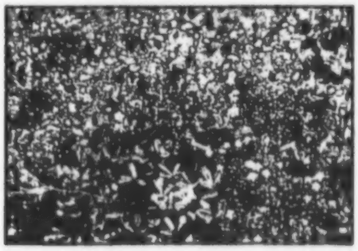


225. The flower spikes are deep to pale pink and are composed of tiny close-set flowers. Flowering is from June to September. The leaves assume a russet hue in the fall and persist into the winter. Best growth occurs in moist soil in sun or partial shade. 'Superbum' and 'Darjeeling Red' are two vigorous cultivars.

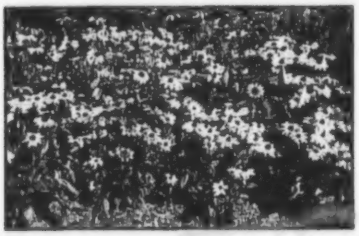


226. ***Potentilla tridentata*** **Rosaceae**
(po-ten-til'uh tri-den-tay'tuh) Habitat: Native to eastern
United States and Canada
WINELEAF CINQUEFOIL, THREE-TOOTHED CINQUEFOIL

Wineleaf cinquefoil is a low-growing, evergreen ground cover which reaches 4 to 8 inches tall. The evergreen leaves are palmately compound with three leaflets, each 1/2 to 2 inches long. During the growing season the leaves are dark green, while in the fall the older leaves turn wine red.



227. The flowers are white (unlike the yellow of *Potentilla tabernaemontani*, #331). Peak flowering is in June. This species requires well-drained acid soil (below pH 5.0). It performs best in partial shade but will tolerate full sun. Wineleaf cinquefoil is native to rocky, sandy areas, and will tolerate drought after establishment.

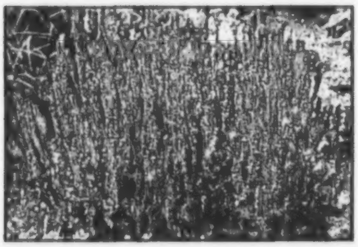


228. ***Rudbeckia hirta*** var. ***pulcherrima*** **Compositae**
(rud-bek'ee-uh her'tuh pul-ker'rim-uh) Habitat: Native to the United States

BLACK-EYED SUSAN, YELLOW OXEYE DAISY,
ENGLISH BULL'S-EYE

This perennial blooms the first year from seed. Black-eyed Susan provides bold splashes of color with its golden-yellow ray flowers and brown to black disk flowers. The cultivar 'Irish Eyes' has golden ray flowers and green disk flowers. Flowering starts in midsummer and continues into the fall.

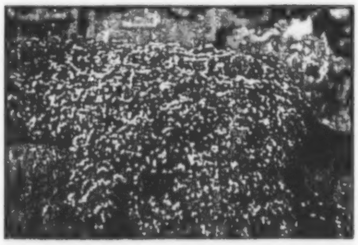
229. Black-eyed Susan grows 2 to 3 feet tall and has an erect or round growth habit. Plant this species in full sun and well-drained soil. Hot, dry summers do not bother *Rudbeckia*. Powdery mildew can be a problem. The related species, *Rudbeckia fulgida*, tends to be less susceptible to powdery mildew.

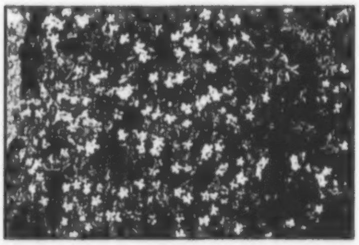


230. ***Salvia*** x ***superba*** **Labiatae**
(sal'vee-uh soo-per'buh) Habitat: Hybrid origin
PERENNIAL SALVIA

The leaves of perennial salvia are opposite, lanceolate to oblong, and wrinkled above. The corolla of the flower is violet or purple, while the calyx is reddish-purple. These flowers are borne on spike-like racemes 4 to 8 inches long. The growth habit of this plant is round and it grows 2 to 4 feet tall.

231. Flowering is from June to August. Perennial salvia should be placed in full sun and well-drained soil. This plant withstands drought conditions. Propagation is by stem cuttings or clump division.





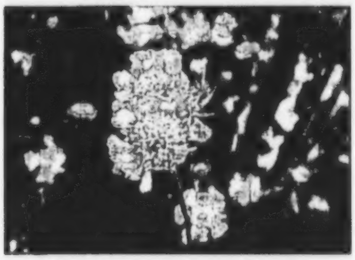
232. ***Saponaria ocymoides*** **Caryophyllaceae**
(sap-o-nare'ee-uh o-kee-moi'deez) Habitat: Native to
ROCK SOAPWORT southern and central Europe

Rock soapwort is a 4- to 10-inch-tall trailing plant which will form a broad mound. The five-petaled pink flowers are borne in a broad, loose cyme. Although the individual flowers are small, the clusters are quite attractive in June and continue with sporadic flowering until September.

233. Full sun and a well-drained site are needed for best performance. *Saponaria* will tolerate poor soils, but it is unable to survive in a wet site during the winter. Rock soapwort has been successfully used in the rock garden or perennial border and on dry stone walls.

234. ***Scabiosa caucasica*** **Dipsacaceae**
(skay-bee-o'suh kaw-kas'ic-uh) Habitat: Native to
PINCUSHION FLOWER Mediterranean region

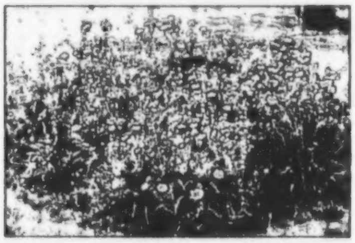
Pincushion flower is a 2-foot-tall plant, round in habit, with long flowering stems. These stems are terminated by light blue flowers.



235. An outer ring of flat petals surrounds a tufted central cushion from which dark gray stamens protrude. Flowering occurs from June to September. Pincushion flower should be grown in full sun in well-drained, fertile soil. A mulch in summer will aid in plant maintenance because this plant prefers cool, humid climates. There are no serious insect or disease problems.

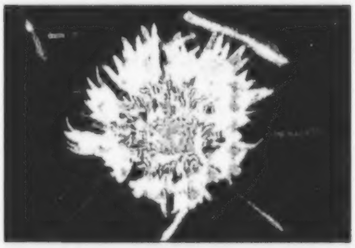
236. ***Sidalcea malviflora*** **Malvaceae**
(sie-dal'shee-uh mal-vi-flo'ruh) Habitat: Native to
CHECKERBLOOM western United States

Sidalcea is a narrow upright plant, 2 to 3 feet tall, resembling a miniature hollyhock. However, it does not get hollyhock rust. The flowers, about 2 inches across, are funnel-shaped and occur in several shades of pink. The flowering period is from June to September. Although native to the United States, checkerbloom is more often used in Europe than in the U.S. This species thrives in full sun and in soils that can hold moisture during the summer. 'Elsie Heugh' has shell-pink flowers with fringed petals, and 'William Smith' has salmon-pink flowers.

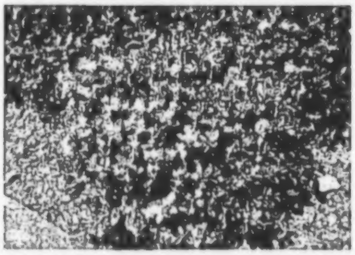


237. ***Stokesia laevis*** **Compositae**
(sto-kee'zee-uh lee'vis) Habitat: Native to southern United States
STOKES ASTER

Stokesia is 12 to 18 inches tall and has a round growth habit.

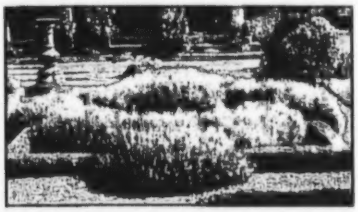


238. The composite flowers are lavender blue, 3 to 4 inches across. The flowering season is from late June to September. Stokes aster should be planted in a full-sun site in well-drained soil. Drainage is imperative during the winter, particularly in areas where alternate freezing and thawing is common. There are no serious diseases or insects. In earlier years, *Stokesia* was a popular plant, but present demand is relatively small.

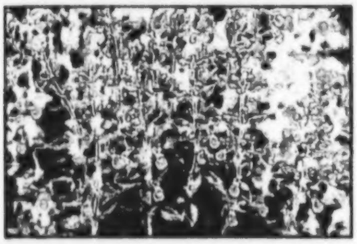


239. ***Teucrium chamaedrys*** **Labiatae**
(too'kree-um kam'uh-drize') Habitat: Native to Europe
GERMANDER and southwestern Asia

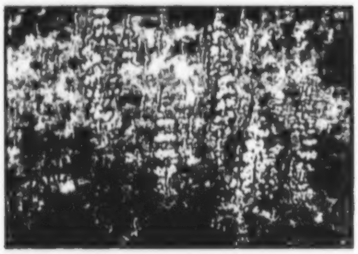
Germander is a semi-woody plant, evergreen to semi-evergreen in mild climates. A clump-forming plant, germander grows 12 inches tall and spreads 24 inches wide.



240. The branching habit is very dense. Consequently, this species is used for edging and formal or informal hedges.



241. The two-lipped flowers are pale to deep purple and bloom in June and July. The flowers are attractive, but germander is usually used for the foliage effects. It performs best in full sun and well-drained soil. In areas where the foliage persists during the winter, plants should be covered with evergreen boughs to prevent winter damage from cold, drying winds. There are no serious insect or disease problems.



242. ***Thermopsis caroliniana*** **Leguminosae**
(ther-mop'sis ka-ro-lin-ee-an'uh) Habitat: Native to mountainous areas of North Carolina and Georgia
CAROLINA LUPINE, CAROLINA THERMOPSIS

The leaves of *Thermopsis* are palmately compound and light green. This perennial forms a clump that is 3 to 4 feet tall. The bright yellow flowers are borne in dense, erect, terminal racemes that may be 10 inches long. This species is named "Carolina lupine" because of the resemblance of its flowers to those of *Lupinus*.

243. Flowering occurs in June and July. A full-sun site is the optimum exposure for *Thermopsis*, but it will tolerate partial shade. Best growth occurs in deep, well-drained soil. *Thermopsis* is tolerant of drought if there is moisture added prior to flowering.

244. ***Tradescantia virginiana*** **Commelinaceae**
(trad-es-kan'shee-uh ver-jin-ee-ay'nuh) Habitat: Native to central
VIRGINIA SPIDERWORT, WIDOW'S-TEARS United States

The leaves of spiderwort are alternate, linear-lanceolate, and about 1/2 inch wide. It has a round growth habit which is 18 to 24 inches in size.

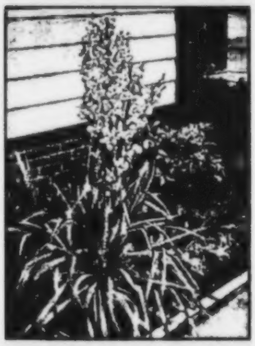
245. The flowers are borne in terminal umbels and are composed of three petals. Flowers are usually violet-purple, but there are also cultivars with white, pink and red flowers. The bloom period is from June to late August. Spiderwort tolerates poor soil, poor drainage, and low light. It can be used in border plantings, naturalized shade areas, and wild gardens. Clumps should be divided every three to four years to prevent excessive spread.

246. ***Veronica spicata*** **Scrophulariaceae**
(ver-on'ik-uh spy-kay'tuh) Habitat: Native to Europe
SPIKE SPEEDWELL

Spike speedwell is an erect plant 18 to 24 inches tall. The blue flowers are borne in dense terminal racemes from June to early August.

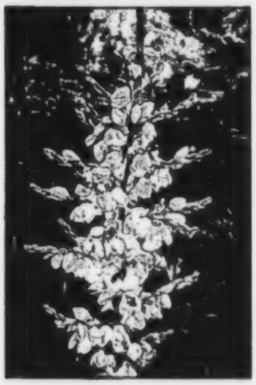
247. A full-sun site is best for this species, but it will tolerate partial shade. Soils should be moderately fertile and well-drained, particularly in the winter.

248. There are a number of cultivars which are probably hybrids between *V. spicata* and *V. longifolia*. They are 'Crater Lake Blue' – deep blue flowers; 'Icicle' (shown here) – white flowers; and 'Minuet' – light pink flowers.



249. ***Yucca filamentosa*** **Agavaceae**
(yuk'uh fil-uh-men-to'suh) Habitat: Native to warm regions of North America
YUCCA, ADAM'S NEEDLE, NEEDLE PALM, SPANISH BAYONET

This native plant of the Southwest has a basal rosette of swordlike leaves, 2 to 3 feet long and 1 to 2 inches wide. The leaves have a white or greenish-white margin with long threads. The stout inflorescence grows from 3 to 12 feet tall (normally about 4 feet tall).



250. The white flowers are borne from June to mid-August. Yuccas are noted for their drought resistance; they should be planted in full sun in well-drained soil.

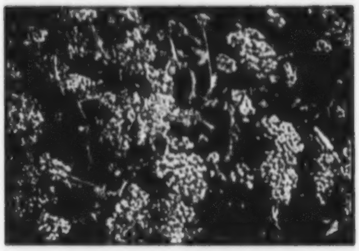
251. 'Bright Edge' – variegated gold edge, and 'Golden Sword' (shown here) – yellow midrib, are two cultivars. *Yucca glauca* (soapweed) is more refined than *Y. filamentosa*. The leaves of *Y. glauca* are narrow (1/2 inch) and quite linear.

— July —

252. ***Acanthus spinosissimus*** **Acanthaceae**
(uh-kan'thus spine-o-sis'imus) Habitat: Native to southeastern Europe
SPINY BEAR'S-BREECHES

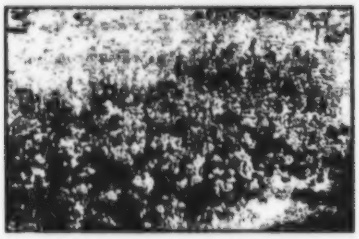
"Spiny bear's-breeches" is an appropriate name for this species. The large basal leaves are lobed and each lobe is terminated by a rigid white spine. The leaves are shiny dark green, rigid, and leathery; they can reach a size of 2 feet long and 1 foot wide. Some consider the foliage to be more striking than the flowers.

253. The purple or white flowers are borne on 2- to 4-foot stalks during July and August. *Acanthus* will grow in sun or shade, but best flowering occurs in full sun. It should be place in a well-drained site, as drainage is critical. Due to its size, spiny bear's-breeches is suitable as a background or specimen plant.

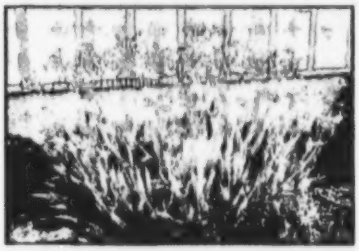


254. ***Achillea millefolium*** **Compositae**
(ak-il-lee'uh mil-eh-fo'lee-um) Habitat: Native to Europe and western Asia
COMMON YARROW, MILFOIL,
SANGUINARY, THOUSAND-SEED, NOSE-BLEED

Common yarrow has a very fine leaf texture which resembles a carrot top. The flowers are borne in terminal, flat corymbs 2 to 3 inches across. The species has white flowers; however, the cultivars are superior and will vary in flower color from pink to red. 'Fire King' (shown here) and 'Crimson Beauty' are two cultivars with rosy-red flowers.

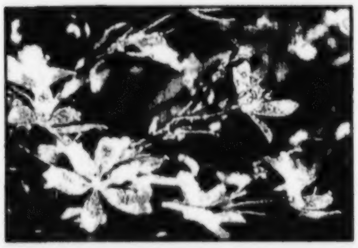


255. Common yarrow is best restricted to a naturalized site because it tends to become aggressive. The cultivars are more refined and are used in the border area and for cut or dried flowers. Spring division is the easiest propagation method.



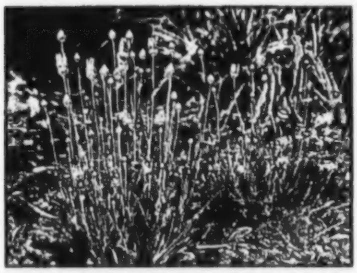
256. ***Belamcanda chinensis*** **Iridaceae**
(bel-am-kan'duh chi-nen'sis) Habitat: Native to China and Japan
BLACKBERRY LILY, LEOPARD FLOWER

The foliage of this species resembles that of the German iris. The foliage portion of the plant is 2 to 3 feet tall with flower stalks up to 4 feet.



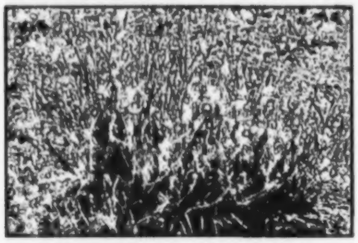
257. The flowers are orange, dotted with red; they bloom from late July to September.

258. The capsule fruit splits open at maturity and reveals a cluster of black seeds which resemble a blackberry, hence the common name. Blackberry lily should be located in full sun and planted in well-drained soil. Wet conditions in winter are particularly damaging. Tubers may be divided, but division is unnecessary for several years. Iris borer may infect the fleshy rhizomes.



259. ***Catananche caerulea*** **Compositae**
(kat-a-nan'key seh-roo'lee-uh) Habitat: Native to
CUPID'S DART Mediterranean region

Cupid's dart is a 24-inch erect plant that looks best in the landscape when it is massed together.



260. The blue flower heads are 2 inches across with petals toothed at the apex as if cut with pinking shears. This plant is also useful as a cut or dried flower; (the flower has the same texture as a strawflower). Locate this species in full sun and well-drained soil. Wet soil is usually fatal and hardiness is marginal in severe winters. Spring division is usually required every other year to maintain good specimens and reduce the number of self-seeded plants.

261. ***Cimicifuga racemosa*** **Ranunculaceae**
(sim-iss-if'you-guh ra-seh-mo'suh) Habitat: Native to North America
BLACK SNAKEROOT, BLACK COHOSH, BUGBANE

Black snakeroot is a native American plant but is not commonly used in the landscape. It ranges in height from 3 to 8 feet. The white flowers are borne on long wand-like racemes, which may be 3 feet long. Flowering occurs in July and August. *Cimicifuga* can be situated in full sun or shade. In full sun it requires moist soil with good organic matter. Landscape use might be as a specimen plant in a border or massed along the edge of a pond or stream. Division in fall or spring is suitable for increasing numbers. However, the plant can be left undisturbed indefinitely.

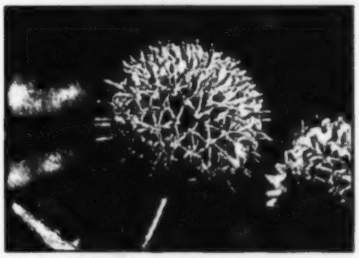
262. ***Echinacea purpurea*** **Compositae**
(ek-in-nay'see-uh per-pure'ee-uh) Habitat: Native to eastern U.S.
PURPLE CONEFLOWER, HEDGE CONEFLOWER, BLACK SAMPSON, PURPLE ECHINACEA, PURPLE RUDBECKIA

Purple coneflower is a native plant that can be found in many fields and roadside areas. It is quite drought-resistant and should be planted in well-drained soil in full sun.

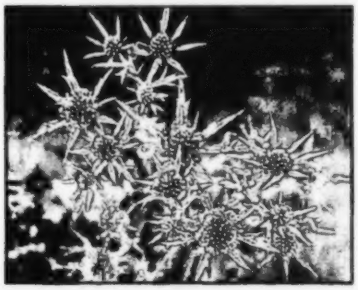
263. The solitary flower heads have purple ray flowers and mahogany to orange disk flowers. This 3- to 5-foot erect plant flowers from July to September. Coneflower is an excellent choice for a naturalized area and it can also be used for a cut flower. Clump division should be done every four years. Japanese beetle can be a problem in areas where this pest is prevalent. This species was previously named *Rudbeckia purpurea*.

264. ***Echinops exaltatus*** **Compositae**
(ek'in-ops eks-all-tay'tus) Habitat: Native to Siberia
GLOBE THISTLE, RUSSIAN GLOBE THISTLE

The common name for this species is very appropriate, for both foliage and flowers resemble those of a thistle. The leaves are lobed and each segment is terminated by a spine. The lower leaf surface has a white tomentum.



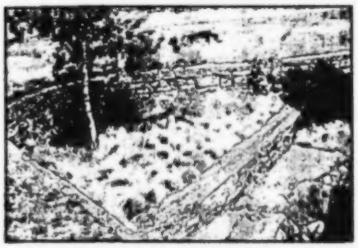
265. The steel blue flower heads are at their peak in August. If cut just as the flower starts to open, the flower heads will retain their blue color and are useful as cut or dried flowers. Globe thistle grows 3 to 4 feet tall and may need staking. *Echinops* is planted in full sun and tolerates dry soil. It is a very coarse-textured plant; consequently, in the landscape it may be best limited to background use. Globe thistle is easy to grow and has no serious pests.



266. ***Eryngium amethystinum*** **Umbelliferae**
(eh-rin'jee-um am-eh-this'tin-um) Habitat: Native to Mediterranean region
AMETHYST SEA HOLLY, SEA HOLLY, ERYNGO

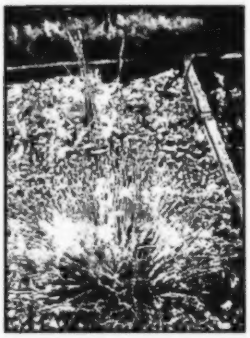
Sea holly has a bold texture and is characterized by deeply-lobed leaves which have spine-toothed lobes. The blue flowers are excellent as dried flowers if picked when fully open. Flowering occurs in July and August.

267. *Eryngium* grows very well in sandy soils in full sun. It is a perfect plant for harsh sites. Sea holly is pest-free. It develops a taproot which makes transplanting difficult. This plant probably deserves frequent cultivation because of its tolerance to dry areas.

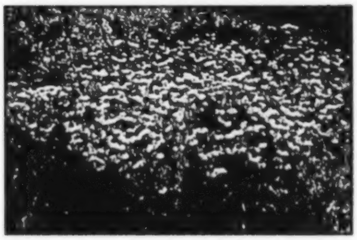


268. ***Festuca ovina* var. *glauca*** **Gramineae**
(fes-too'kuh o-vee'nuh glaw'kuh) Habitat: Native to Europe
BLUE FESCUE

Blue fescue is a low tufted grass, 6 to 10 inches tall, with many stems and fine leaves. The foliage has a silver-glaucous color. The plants bloom during the summer, but many gardeners remove the grass inflorescence because the foliage is so attractive.



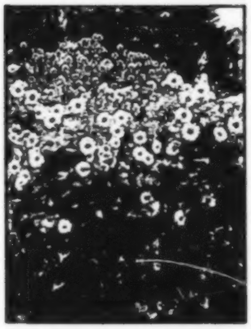
269. Since blue fescue is a clump former, plants should be placed close together for a solid cover. It is seldom bothered by insects or diseases.



270. ***Helenium autumnale*** **Compositae**
(he-lee'nee-um aw-tum-nay'lee) Habitat: Native to eastern and south central United States
SNEEZEWEED, HELEN'S FLOWER, YELLOW STAR,
FALSE SUNFLOWER, SWAMP SUNFLOWER

If one is looking for a plant that flowers from August to frost, sneezeweed is one available choice. It grows 2 1/2 to 5 feet tall, depending on the cultivar. The composite flowers are 2 inches wide and can be yellow, reddish-brown or orange.

271. Sneezeweed can be used as a cut flower or in the border. The use of the shorter cultivars eliminates staking. Clump division should be done every other year to prevent overcrowding. Plant *Helenium* in full sun in moist soil. This species can tolerate wetter soils.



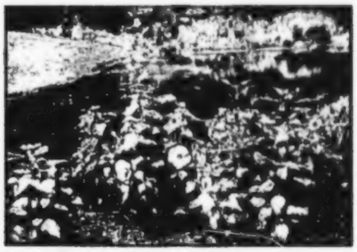
272. ***Helianthus decapetalus*** **Compositae**
(he-lee-an'thus dec-uh-pet'uh-lus) Habitat: Native to eastern United States
THINLEAF SUNFLOWER,
WILD SUNFLOWER, ROVER SUNFLOWER

Thinleaf sunflower is a dependable perennial which grows 3 to 5 feet tall. The yellow flowers, 2 to 3 inches across, are borne on long, slender peduncles. Flowering is in July through September—a colorful addition to the garden. Thinleaf sunflower can be used in the perennial border, wildflower garden, or naturalized area. It grows in almost any soil, but best growth occurs in a sunny site in fertile, moist, alkaline soil. 'Loddon Gold' is a cultivar with double yellow flowers.

273. ***Heliopsis helianthoides*** **Compositae**
(he-lee-op'sis he-lee-an'thoi-deez) Habitat: Native to North America
SUNFLOWER HELIOPSIS, HARDY ZINNIA,
ORANGE SUNFLOWER, FALSE SUNFLOWER

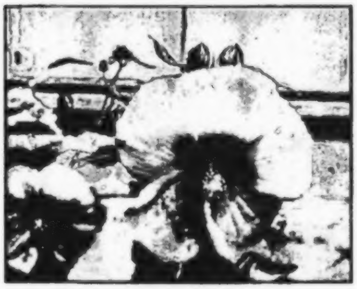
False sunflower has a long flowering season—July to October. It grows 3 to 4 feet tall, erect in habit. Yellow flowers are borne on the loosely-branched stems. Two cultivars with double flowers are 'Gold Greenheart' – 3 feet tall, double yellow flowers with green disk flowers; and 'Incomparabilis' (shown here) – 3 feet tall, semi-double yellow flowers with brown disk flowers.

274. *Heliopsis* should be located in full sun and planted in moderately fertile soil which does not dry out during the summer. Plants grown on dry soils tend to have a ragged habit and small flowers.

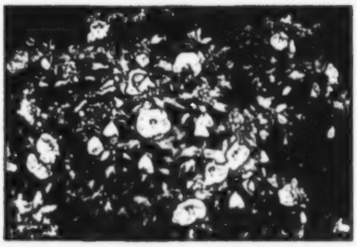


275. ***Hibiscus moscheutos*** **Malvaceae**
(hi-bis'kus mos-koy'tose) Habitat: Native to wetland areas
ROSE MALLOW, HIBISCUS, of eastern United States
MALLOW ROSE, WILD COTTON, SWAMP ROSE

This species is one of the largest perennials for the landscape. It ranges in height from 3 to 8 feet, the average being 6 feet tall. Rose mallow resembles a large, multi-stemmed shrub, but it dies back to the ground each year.



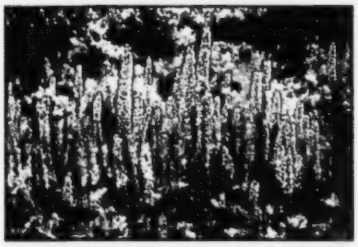
276. The red, pink or white flowers, 6 to 12 inches wide, are single, borne in the axils. Flowering starts in July and continues until frost.



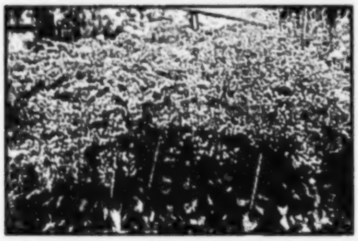
277. Rose mallow will tolerate moist conditions; in fact, naturalizing on a large scale is possible in troublesome wet areas. Best use of the plant is as single specimens in border plantings. Another use might be as temporary summer screens or hedges.

278. ***Ligularia stenocephala*** 'The Rocket' **Compositae**
(lig-u-lare'ee-uh sten-o-sef'uh-luh) Habitat: Native to Asia
ROCKET LIGULARIA

The leaves of this species are triangular and coarsely toothed. The yellow flowers are borne on long cylindrical racemes from late July to frost. Total height of the plant can reach 5 feet, including flower stalks.

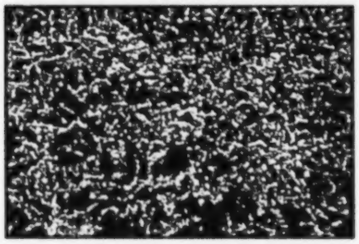


279. Rocket ligularia does well in moist areas in full sun or partial shade. The bold foliage and striking flowers are excellent for waterside plantings or moist borders. Ligularia can be increased by division.

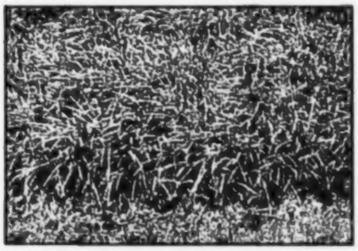


280. ***Limonium latifolium*** **Plumbaginaceae**
(lie-mo'nee-um lat-if-o'lee-um) Habitat: Native to Russia
SEA-LAVENDER, STATICE, WIDELEAF SEA-LAVENDER

Sea-lavender has leathery basal leaves and a tall, many-branched flower stem. This flowering structure, 18 to 24 inches tall, creates a very airy texture. Sea-lavender blooms from July to September.



281. The flowers are blue to violet in color and are useful as cut or dried flowers. *Limonium* should be placed in full sun in well-drained soil. This species is not invasive; plantings can be left undisturbed for many years. If division is desired, it should be done in early spring. There are no serious insects or diseases.



282. ***Liriope spicata*** **Liliaceae**
(leer-eye'o-pee spik-ay'tuh) Habitat: Native to China and Japan
CREEPING LILY-TURF

Creeping lily-turf has evergreen, grass-like leaves about 12 inches long and 1/4 inch wide. In northern areas the foliage is dark green until January, then turns pale green-brown due to winter desiccation.

283. During July and August there are small pale-violet flowers arranged in terminal racemes atop flower stems 10 to 12 inches tall. The fruit, blue-black berries, forms in October and persists well into the winter. *Liriope* does well in shade or sun, although growth is usually best in light shade in moist, fertile soil. Old foliage should be removed in the spring to promote new growth.

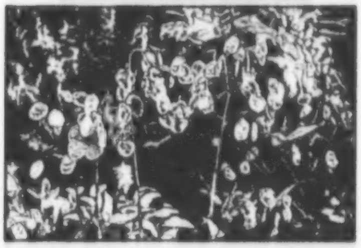
284. ***Lobelia cardinalis*** **Lobeliaceae**
(lo-bee'lee-uh kar-din-ay'lis) Habitat: Native to eastern half of United States and Canada
CARDINAL FLOWER, INDIAN PINK, SCARLET LOBELIA, RED LOBELIA, RED-BIRDS

Cardinal flower is an erect plant that grows 3 to 4 feet tall. The flowers are scarlet and are present from July to September. Scarlet lobelia is very suitable for moist to wet sites.

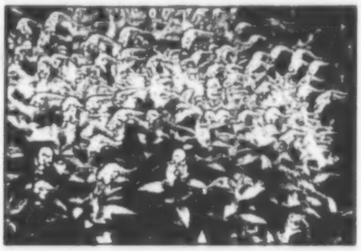
285. In its native areas, this lobelia is found along streams or in damp meadows. Light shade is the preferred site, but full sun is suitable if the soil can be kept moist. Seed and clump division are methods of propagation. In fact, cardinal flower self-sows easily.

286. ***Lunaria annua*** **Cruciferae**
(loo-nare'ee-uh an'you-uh) Habitat: Native to southern Europe
MONEY PLANT, HONESTY, BOLBONAC, SILVER DOLLAR, PENNY FLOWER, DOLLAR PLANT, MONEYWORT

Money plant is another biennial that is included here because of its wide use in the perennial garden or border. The pink or white flowers are present in May and June, but it is the fruit that interests most gardeners.



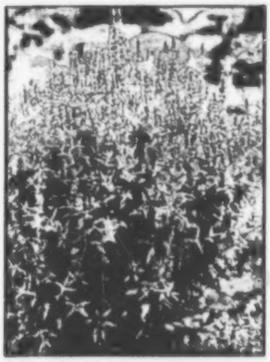
287. The fruit is a flat and nearly orbicular silicle (seed capsule) with a satiny, paper-white septum. These clusters of "silver dollar" fruit develop in July and August. At that time they can be harvested and hung to dry for use in dried floral arrangements. Plant money plant in full sun to partial shade in well-drained soil. *Lunaria* self-seeds, so there is always a group of fresh plants.



288. ***Lysimachia clethroides*** **Primulaceae**
(lie-sim-ake'ee-uh kleth'roi-deez) Habitat: Native to China and Japan
GOOSENECK LOOSESTRIFE, JAPANESE LOOSESTRIFE

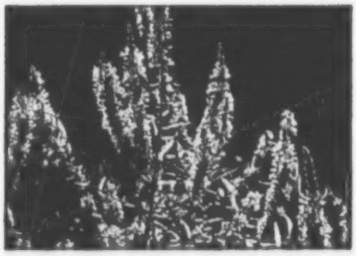
The common name "gooseneck loosestrife" is derived from the appearance of the white flowers. They are borne in a slender curving raceme that creates a "gooseneck" shape. This raceme is borne atop a 3- to 4-foot erect plant that is taller than it is wide. Flowering is in July and August.

289. Gooseneck loosestrife does well in partial to full shade. If this plant is grown in full sun, moist, fertile soil is required. This species is best in the informal perennial border or naturalized in a moist woodland.



290. ***Lythrum salicaria*** **Lythraceae**
(lith'rum sal-ik-kare'ee-uh) Habitat: Native to Europe,
PURPLE LOOSESTRIFE, naturalized in North America
SPIKED LOOSESTRIFE, BLACK BLOOD, RED SALLY

The lanceolate leaves of purple loosestrife are opposite or whorled, clasping at the base. There are a number of cultivars, all with flowers colored some shade of rosy-red to purple. The flowers, about 1 inch in diameter, are arranged on dense spikes 12 inches in length. This species should be used at the back of the border due to its 3- to 5-foot height. It is an effective plant for late summer flowering.



291. *Lythrum* can be grown in full sun or shade, in any soil, damp or dry. It is an excellent plant for the perplexing wet, shaded site. There are no serious pest problems.

292. ***Phlox paniculata*** **Polemoniaceae**
(floks pan-ik-u-lay'tuh) Habitat: Native to southwestern
SUMMER PHLOX, GARDEN PHLOX, United States
FALL PHLOX, PERENNIAL PHLOX

Summer phlox is unequaled for its showy bloom through a long season. The 1-inch, dish-shaped flowers are arranged in large heads that are 6 to 12 inches in size. Flower colors are white, pink, red, blue or purple. Summer phlox grows 2 to 4 feet tall and forms a clump with stiff erect stems. Flowering is from July to September. Removing faded flowers will prolong flowering and prevent self-seeding.

293. Plant summer phlox in soil with high organic matter in sun or partial shade. This species benefits from application of superphosphate, bone meal, or a complete fertilizer. Powdery mildew is a persistent disease and must be controlled with a spray program.

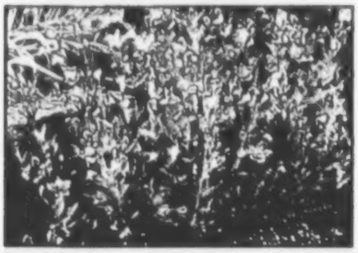
294. ***Physostegia virginiana*** **Labiatae**
(fie-so-stee'jee-uh ver-jin-ee-ay'nuh) Habitat: Native to eastern North America
FALSE DRAGONHEAD, OBEDIENT PLANT, STAY-IN-PLACE, LIONS-HEART

Physostegia is another perennial with the characteristic square stems of the mint family (Labiatae). The tubular flowers are arranged in four widely-spaced vertical rows. False dragonhead is in flower from July to September. Flower colors are rose, purple …

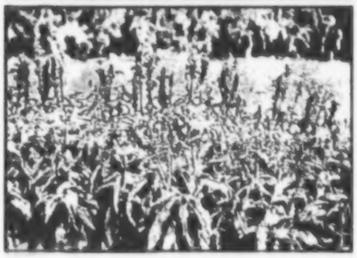
295. … or white as in the variety *alba* and cultivar 'Summer Snow' (shown here). *Physostegia* has an erect habit and grows 2 to 4 feet tall. It can be used for cut flowers or border backgrounds, or naturalized in semi-wild areas. False dragonhead is grown in full sun to partial shade in wet or dry sites. Division should be done in the spring to prevent the plant from becoming invasive.

296. ***Platycodon grandiflorus*** **Campanulaceae**
(plat-ee-ko'don gran-di-flor'us) Habitat: Native to eastern Asia
BALLOON FLOWER, JAPANESE BELLFLOWER, CHINESE BELLFLOWER

The common name "balloon flower" describes the flowers which swell like a balloon before they open and become saucer-shaped. These flowers are usually blue, but there are white- and pink-flowered cultivars.



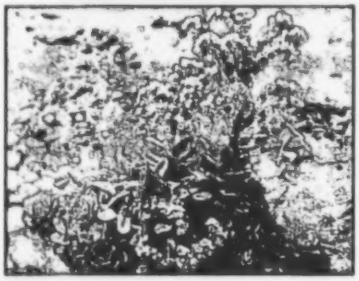
297. The species is 24 to 30 inches tall, but 'Apoyama' and the variety *mariesii* are shorter—12 to 18 inches tall. Balloon flower blooms from July to September. Well-drained soil is very important, and either full sun or partial shade is the exposure requirement.



298. ***Salvia farinacea*** **Labiatae**
(sal'vee-uh far-in-ay'see-uh) Habitat: Native to Texas
MEALYCUP SAGE

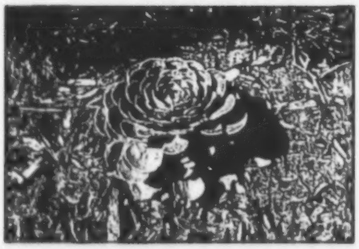
Mealycup sage is a 2- to 3-foot erect plant with blue flowers borne on an interrupted spike. The blooming period is from July to frost. For sheer dependability year in and year out, mealycup sage is unsurpassed. It is a strong grower in extreme heat. It is attractive and excellent for bedding purposes, and also is good for cuttings.

299. 'Blue Bedder,' 24 inches tall with blue flowers; and 'Catima,' 24 inches tall with deep blue flowers, are two popular cultivars. *Salvia* is another member of the mint family (Labiatae) with square stems.



300. ***Sempervivum tectorum*** **Crassulaceae**
(sem-per-vie'vum tek-tor'um) Habitat: Native to Europe
HEN-AND-CHICKENS, OLD-MAN-AND-WOMAN,
HOUSELEEKS

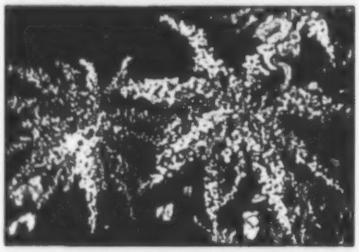
Sempervivum is characterized by flat crowded rosettes 2 to 4 inches tall. The flower stems are 6 to 12 inches tall, growing in midsummer along with the purple-red or sometimes whitish flowers.



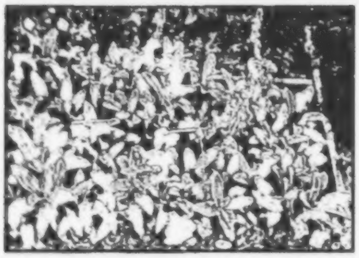
301. However, the plant is more valued for its foliage effect than for the flowers. Hen-and-chickens is used in rock gardens, on stone walls, as edging plants, or in carpet beds, or is potted into containers like strawberry jars. Full sun and good drainage are the only requirements. Propagation is easily done by separating the small outer rosettes from the "mother" rosette.

302. ***Solidago*** hybrids **Compositae**
(sol-id-day'go) Habitat: Species are native to North America
GOLDENROD

Hybrid goldenrods are more suitable to garden culture than are their country cousins. Most of the cultivars range in height from 2 1/2 to 5 feet, with an average of 3 feet. Goldenrod has an erect habit. The stems are terminated by golden yellow plumes from July to October.



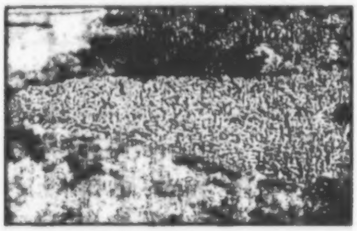
303. The flowers are very useful for providing bold splashes of color in late summer. *Solidago* grows well in full sun or partial shade in well-drained soil. 'Goldenmosa' is a 3-foot-tall selection.



304. ***Stachys byzantina*** **Labiatae**
(stay'kis by-zan-teen'uh) Habitat: Native to Iran
LAMB'S EAR, WOOLLY BETONY, WOOLLY WOUNDWORT

The leaves and stems of "lamb's ear" closely resemble the real thing: white and thickly tomentose, soft and felt-like in texture. Lamb's ear grows 6 to 12 inches tall and will quickly spread to 24 inches.

305. The purplish-pink flowers are borne on 4- to 6-inch-long spikes from July to frost. Many gardeners remove the flowers to enhance the foliage effect.



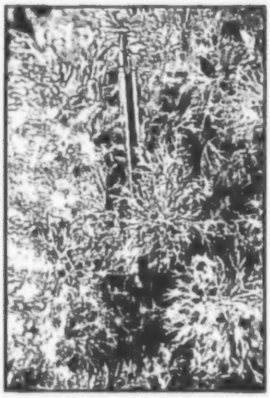
306. This species does well in well-drained soil in a full-sun site. Lamb's ear may require division every two or three years to prevent excessive spread.

—— August ——

307. ***Anaphalis margaritacea*** **Compositae**
(an-af'uh-lis mar-guh-ree-tay'see-uh) Habitat: Native to
North America and eastern Asia
PEARLY EVERLASTING, LARGE-FLOWERED EVERLASTING,
IMMORTELLE, LIFE-EVERLASTING

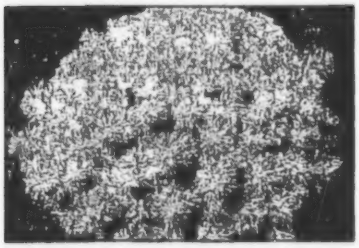
Pearly everlasting, with stiff erect stems, grows from 2 to 3 feet high. The lanceolate leaves are white-tomentose; they create an interesting white accent in the garden.

308. The flowers are also useful as dried flowers. The involucral bracts are very showy white. This species grows best in dry sunny sites, even in poor soil. *Anaphalis* is easily propagated by division in spring or fall.

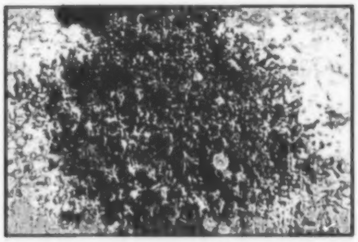


309. ***Artemisia schmidtiana*** 'Silver Mound' **Compositae**
(ar-tem-iz'ee-uh shmit-ee-an'uh) Habitat: Native to Japan
WORMWOOD, ANGELS-HAIR

Wormwood is one of the more striking perennials available. The finely divided silver-white leaves are soft as velvet. Wormwood flowers in August and September, but the white flowers are not conspicuous. The plant is usually used for its foliage effect, not its flowers.

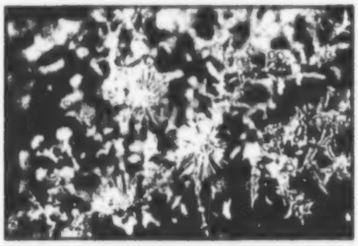


310. Wormwood grows to a height of 12 inches and forms a rounded mound about 18 inches in diameter. The best site for this plant is in full sun in well-drained soil. If 'Silver Mound' wormwood is planted in highly fertile soil, growth is lush and the mound of foliage opens in the center. This species is an excellent choice for borders or rock gardens. The silver foliage provides a pleasant contrast to such colors as blue, red or yellow. Taking stem cuttings in summer is the preferred propagation method.

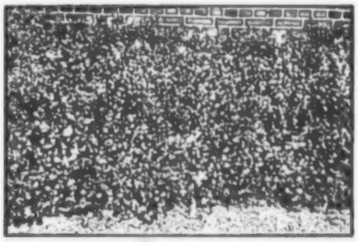


311. ***Aster novae-belgii*** **Compositae**
(as'ter no'vee-bel'jie) Habitat: Native to North America
NEW YORK ASTER, MICHAELMAS DAISY

This species is only one of many composites which bloom from August through October. Asters and chrysanthemums are two of the main species known for fall flowering. New York aster grows 3 to 5 feet tall. It has violet ray flowers. However, there are several cultivars which are shorter and have flowers of white, blue, crimson and lavender.



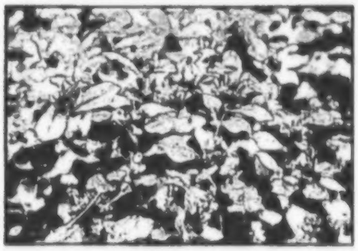
312. Asters grow well in full sun. For peak flowering, plant should be in moist but well-drained soil. Asters are useful in all areas of the border, depending upon the height of the cultivar. They are also at home in naturalized areas, particularly meadow-like spots. Division should be done in early spring.



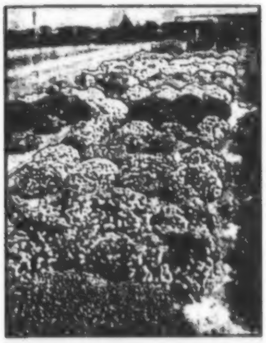
313. ***Ceratostigma plumbaginoides*** **Plumbaginaceae**
(ser-at-o-stig'muh plum-buh-jin-oi'deez) Habitat: Native to China
LEADWORT, PLUMBAGO

Leadwort is a deciduous ground cover that provides an ornamental effect several times during the growing season. It is an 8- to 12-inch-tall ground cover blooming with dark blue flowers in August to late fall.

314. Also in the fall, the dark green leaves turn bronze-red, particularly in cool areas.

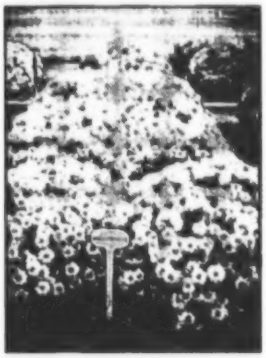


315. *Ceratostigma* can be grown in full sun or partial shade. It requires well-drained soil; soggy conditions are disastrous. Leadwort should be cut to the ground in the spring to stimulate new lush growth. Propagate by clump division in the spring.



316. ***Chrysanthemum* x *morifolium*** **Compositae**
(kris-an'theh-mum mor-if-o'lee-um) Habitat: Native to the Orient
HARDY CHRYSANTHEMUM

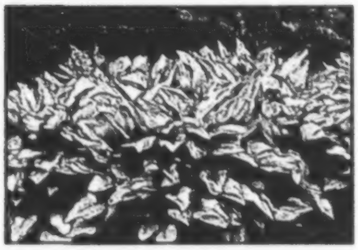
The hardy chrysanthemum is the "backbone" flower of the fall garden. There are numerous cultivars which can provide various colors and sizes of plants. One of the most popular groups is cushion mums, a compact type which is not as "leggy" as the upright types.



317. Hardy chrysanthemums flower from late August until frost, depending upon the cultivar. This species may require mulch during the winter or the use of a cold frame for winter protection. Chrysanthemums require high fertility for optimum performance. Hardy chrysanthemums may be transplanted while in bloom; this makes them valuable for instant landscaping in the fall.

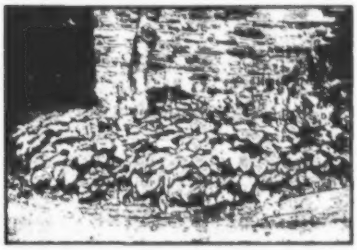
318. ***Eupatorium coelestinum*** **Compositae**
(you-puh-tor'ee-um see-les'tin-um) Habitat: Native to
MIST-FLOWER, North and South America
HARDY AGERATUM, BLUE BONESET

The flowers of this species are similar to those of the annual Mexican ageratum, but this plant has an erect growth habit, quite different from the 6-inch mound of Mexican ageratum. Mist-flower has bluish-purple flowers from August to frost. It makes a good color combination with yellow or white chrysanthemums, which also flower in the fall. Frequent division is needed to prevent spreading of this plant into and over other perennials. Clump division in spring is the usual propagation method.

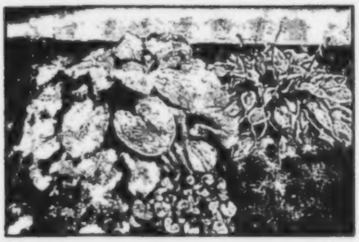


319. ***Hosta plantaginea*** **Liliaceae**
(hoss'tuh plan-taj-in'ee-uh) Habitat: Native to China and Japan
FRAGRANT PLANTAIN-LILY, HOSTA

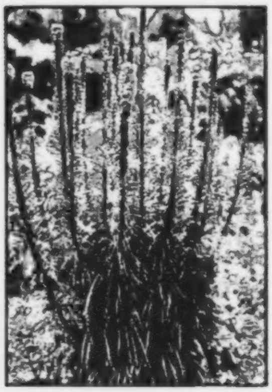
All species and cultivars of *Hosta* have long-petioled basal leaves which expand into an ovate to cordate-ovate blade. The white flowers, trumpet-shaped and 4 inches long, are borne at the tip of 18- to 30-inch stems. Flowering is in August and September.



320. Hostas should be planted in full to partial shade in soil with good organic matter. The shade of tall trees provides a good microclimate. Hostas are used in borders, in rock gardens, around water areas, or in massed plantings in the shade.

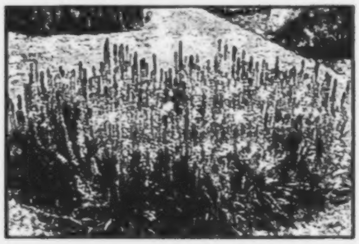


321. There are many new cultivars of *Hosta*; one should consult a good catalog for available cultivars.

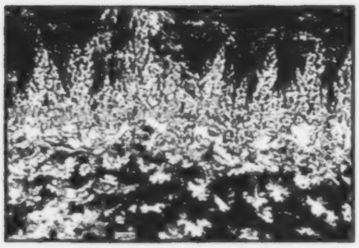


322. ***Liatris spicata*** **Compositae**
(lie-ay'tris spik-ay'tuh) Habitat: Native to North America
GAYFEATHER, LIATRIS

There are several species of *Liatris*, many of them native to the dry prairie lands of Kansas and Nebraska. Liatris has a stout erect stem and grows 3 feet tall. The individual flowers are arranged in a spike-like inflorescence. The rose or lavender flowers bloom in August.



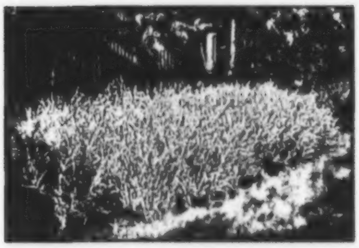
323. Liatris is quite tolerant of dry situations. Plant in full sun and well-drained soil. Soggy conditions in winter can cause rotting. The cultivar 'Kobold' (shown here) is smaller-growing (18 to 24 inches) than the species. There are no serious pest problems.



324. ***Macleaya cordata*** **Papaveraceae**
(mak-lay'uh kor-day'tuh) Habitat: Native to China and Japan
PLUME-POPPY, TREE CELANDINE

Plume-poppy is a large erect plant that reaches heights of 6 to 8 feet.

325. Individual leaves are 8 inches long and deeply lobed. They resemble fig leaves. Their upper surfaces are light green and the lower surfaces are covered with gray-white pubescence. The pale-pink flowers, blooming in August, are borne in terminal panicles that are 12 inches long. The large size of this species makes it most appropriate planted to the rear of the border. *Macleaya* should be located in full sun and planted in moist, well-drained soil. Divide every three or four years to reduce the invasive habit.



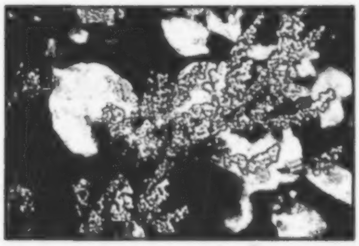
326. ***Phalaris arundinacea*** var. ***picta*** **Gramineae**
(fal'uh-ris ar-un-din-ay'see-uh pik'tuh) Habitat: Native to North America and Europe
RIBBON GRASS, GARDENER'S-GARTERS

This perennial grass is the answer for dry or wet areas where other plants do poorly. It is quite tolerant of light, sandy soils, and can also be used in wet areas along stream banks.

327. The flat leaves, 6 to 12 inches long and about 1/2 inch wide, are striped with white or yellow variegation. The foliage becomes light brown in mid-August and loses the striking variegated appearance. Ribbon grass can become invasive; consequently, division will be required to maintain a tidy plant. Outer sections of the plant should be used for new plantings.

328. ***Physalis alkekengi*** **Solanaceae**
(fie'suh-lis al-keh-ken'jee) Habitat: Native to southeastern Europe and Japan
CHINESE-LANTERN PLANT, ALKEKENGI, WINTER CHERRY, JAPANESE LANTERN, STRAWBERRY TOMATO, BLADDER CHERRY, STRAWBERRY GROUND CHERRY

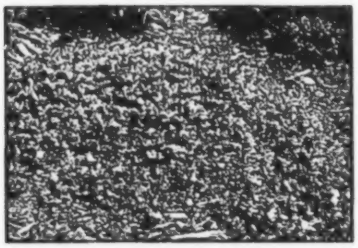
Chinese-lantern is a perennial noted more for its orange-red fruit than its white flowers. The calyx enclosing the showy orange fruit resembles a Chinese lantern; the fruit develops in late summer. The fruiting stems are useful in floral arrangements. Plants used in the perennial border add bright color in the fall, but they can quickly become invasive because of their ability to spread by underground stems. Full sun and well-drained soil are environmental requirements.



329. ***Polygonum cuspidatum*** var. ***compactum*** **Polygonaceae**
(po-lig'o-num kus-pid-ay'tum kom-pak'tum) Habitat: Native to Japan
REYNOUTRIA FLEECEFLOWER

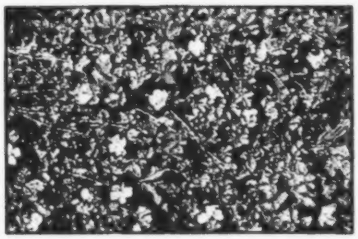
Reynoutria fleeceflower has a spreading growth habit and grows 24 inches tall. Pink flowers are borne in panicled racemes from August to frost.

330. The leaves are alternate, ovate, and abruptly pointed. The stems are jointed with sheaths at the nodes. The best site for this fleeceflower is one with full sun and semi-dry soil conditions. It is adaptable to a wide variety of exposures and soils. *Polygonum* is useful for large areas or slopes in full sun where other ground covers such as *Pachysandra* are not effective. Reproduction is easiest with division in the spring. This species was formerly named *Polygonum reynoutria*.

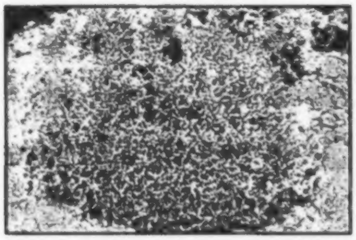


331. ***Potentilla tabernaemontani*** **Rosaceae**
(po-ten-til'uh tab'er-nee-mon-tan'eye) Habitat: Native to Europe and western Asia
SPRING CINQUEFOIL,
POTENTILLA VERNA

Spring cinquefoil is a very compact, low-growing mat 3 to 6 inches tall. It spreads by prostrate rooting stems. Individual leaves are palmately divided into five (sometimes seven) leaflets.

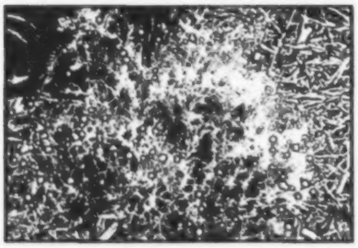


332. The yellow flowers, 1/2 to 1 inch wide, are borne singly or in terminal cymes. Peak flowering occurs in August and September. Spring cinquefoil grows best in well-drained soil in sun or partial shade. It is also fairly tolerant of drought. It is easily propagated by division in the spring.

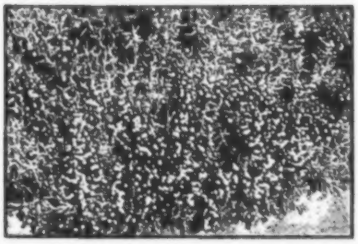


333. ***Santolina chamaecyparissus*** **Compositae**
(san-toe-lie'nuh kam-ee-sip'uh-ris-sus) Habitat: Native to Mediterranean region
LAVENDER COTTON

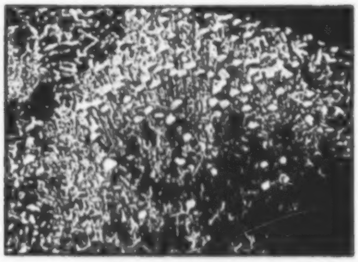
Lavender cotton is characterized by silver gray foliage, pinnately divided into very small segments. The color of this species …



334. …and the green foliage of *Santolina virens* (shown here) are very striking. Both are used for the foliage effect.



335. Lavender cotton has yellow flower heads in August and September. Sometimes the flowers are sheared so as to maintain the foliage in peak condition. The plant has a spreading growth habit, 18 to 24 inches across.



336. Plant in full sun and well-drained soil. Lavender cotton does much better in a dry site than a wet one. *Santolina* is useful as a low hedge, in the rock garden, or as a carpet bed plant.

337. ***Sedum spectabile*** **Crassulaceae**

(see'dum spek-tab'il-ee) Habitat: Native to Japan

SHOWY STONECROP, AUTUMN SEDUM, LIVE-FOREVER

This species is a large, upright-growing form of *Sedum*. Most species are prostrate, ground-hugging types. Showy stonecrop grows 18 to 24 inches tall with a round growth habit. The individual flowers are about 1/2 inch across and are arranged in large dense cymes 3 to 6 inches across. The pink or white flowers bloom from August to frost. Like other sedums, showy stonecrop has fleshy, succulent leaves.

338. *Sedum spectabile* does best in sun and well-drained soil. It is used in the rock garden or displayed as a specimen or in groups in the perennial border. This species is easy to grow and has no serious pests.

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EFF-089 (1/2003)